

Contents of Volume 252

American Journal of Physiology

**American Journal of Physiology:
Cell Physiology**

**American Journal of Physiology:
Endocrinology and Metabolism**

**American Journal of Physiology:
Gastrointestinal and Liver Physiology**

**American Journal of Physiology:
Heart and Circulatory Physiology**

**American Journal of Physiology:
Regulatory, Integrative and Comparative Physiology**

**American Journal of Physiology:
Renal, Fluid and Electrolyte Physiology**

American Journal of Physiology: Cell Physiology

No. 1. JANUARY 1987

BRIEF REVIEW

Dynamic state of collagen: pathways of collagen degradation in vivo and their possible role in regulation of collagen mass

G. J. Laurent

C1

Physiological changes induced in cardiac myocytes by cytotoxic T lymphocytes

D. Hassin, R. Fixler, Y. Shimon, E. Rubinstein, S. Raz,

M. S. Gotsman, and Y. Hasin

C10

Modulation of Na^+ - Ca^{2+} exchange in sarcolemmal vesicles by intravesicular Ca^{2+}

J. P. Reeves and P. Poronnik

C17

Inhibition and activation of Na^+ - Ca^{2+} exchange activity by quinacrine

P. de la Peña and J. P. Reeves

C24

^{31}P nuclear magnetic resonance measurements of intracellular pH in giant barnacle muscle

J. R. Hamm and G. M. Yue

C30

ATP-dependent calcium transport across basal plasma membranes of human placental trophoblast

G. J. Fisher, L. K. Kelley, and C. H. Smith

C38

Adenylate cyclase regulation in intact cultured myocardial cells

J. D. Marsh and D. J. Roberts

C47

Cation dependence of posttetanic potentiation of neuromuscular transmission

S. Misler, L. Falke, and S. Martin

C55

Sodium-hydrogen exchange system in LLC-PK₁ epithelium

A. Moran

C63

High cytosolic pH inhibits Ca uptake by *Myxicola* axon mitochondria

R. F. Abercrombie and K. Gammeltoft

C68

Structural effects of exposure of smooth muscle in sucrose gap apparatus

E. E. Daniel, V. Posey-Daniel, L. P. Jager, I. Berezin, and J. Jury

C77

Energy expenditure of longitudinal smooth muscle of rabbit urinary bladder

I. R. Wendt and C. L. Gibbs

C88

Cardiac hypertrophy in chick embryos induced by hypothermia

C. Boehm, T. R. Johnson, J. D. Caston, and R. J. Przybylski

C97

High affinity L-aspartate transport in chick small intestine

T. G. Wingrove and G. A. Kimmich

C105

RAPID COMMUNICATIONS

Endosomal compartment of toad bladder epithelium

S. K. Masur, J. Gruenberg, and K. E. Howell

C115

No. 2. FEBRUARY 1987

Ca^{2+} -activated K^+ channels in cultured medullary thick ascending limb cells

S. E. Guggino, W. B. Guggino, N. Green, and B. Sacktor

C121

Blocking agents of Ca^{2+} -activated K^+ channels in cultured medullary thick ascending limb cells

S. E. Guggino, W. B. Guggino, N. Green, and B. Sacktor

C128

Calcium, cell shrinkage, and proteolytic state of human red blood cells

L. M. Crespo, T. S. Novak, and J. C. Freedman

C138

Interactions of inhibitors on anion transporter of human erythrocyte

O. Fröhlich and R. B. Gunn

C153

Cytosolic free calcium concentration and glucose transport in isolated cardiac myocytes <i>J. Y. Cheung, J. M. Constantine, and J. V. Bonventre</i>	C163
Effects of TPA on short-circuit current across frog skin <i>T. Mauro, T. G. O'Brien, and M. M. Civan</i>	C173
Pretranslational regulation of Na-K-ATPase in cultured canine kidney cells by low K ⁺ <i>J. W. Bowen and A. McDonough</i>	C179
Sodium permeability of frog skeletal muscle in absence and presence of veratridine <i>L. McKinney and R. W. Ratzlaff</i>	C190
Swelling, NEM, and A23187 activate Cl ⁻ -dependent K ⁺ transport in high-K ⁺ sheep red cells <i>H. Fujise and P. K. Lauf</i>	C197
Stimulation of albumin gene transcription by insulin in primary cultures of rat hepatocytes <i>C. E. Lloyd, J. E. Kalinyak, S. M. Hutson, and L. S. Jefferson</i>	C205
Origin and propagation of electrical slow waves in circular muscle of canine proximal colon <i>T. K. Smith, J. B. Reed, and K. M. Sanders</i>	C215
Energy metabolism of renal cell lines, A6 and MDCK: regulation by Na-K-ATPase <i>R. M. Lynch and R. S. Balaban</i>	C225
Isolation, growth, and characterization of a gluconeogenic strain of renal cells <i>G. Gstraunthaler and J. S. Handler</i>	C232

RAPID COMMUNICATIONS

Precursors of ribose 5-phosphate suppress expression of glucose-regulated proteins in LLC-PK ₁ cells <i>G. Gstraunthaler, H. W. Harris, Jr., and J. S. Handler</i>	C239
Contraction of rat thoracic aorta strips induced by phorbol 12-myristate 13-acetate <i>H. Itoh and K. Lederis</i>	C244
Negative inotropic effect of extracellular calcium buffering in cardiac muscle <i>Y. Shimoni and S. Ginsburg</i>	C248

SPECIAL COMMUNICATIONS

High-speed ultrasensitive instrumentation for myofibril mechanics measurements <i>T. Iwazumi</i>	C253
---	------

ANNOUNCEMENTS

C263

No. 3. MARCH 1987

CENTENNIAL MESSAGE

Wither or whither? <i>A. P. Fishman</i>	C265
The American Physiological Society in its centenary year <i>H. E. Morgan</i>	C267

Cell volume, K transport, and cell density in human erythrocytes <i>C. Brugnara and D. C. Tosteson</i>	C269
Identification of high-affinity calmodulin-binding proteins in rat liver <i>R. M. Hanley, J. R. Dedman, and S. Shenolikar</i>	C277
Tissue distribution of rat S100 α and S100 β and S100-binding proteins <i>D. B. Zimmer and L. J. Van Eldik</i>	C285
Interaction of two electrical pacemakers in muscularis of canine proximal colon <i>T. K. Smith, J. B. Reed, and K. M. Sanders</i>	C290
Cell volume regulation in hemoglobin CC and AA erythrocytes <i>L. R. Berkowitz and E. P. Orringer</i>	C300

Mechanism of NaCl transport-stimulated prostaglandin formation in MDCK cells <i>A. Kurtz, J. Pfeilschifter, K. Malmström, R. D. Woodson, and C. Bauer</i>	C307
Calcium-mediated cyclic AMP inhibition of Na-H exchange in small intestine <i>C. E. Semrad and E. B. Chang</i>	C315
Faster ribosome synthesis induced by elevated aortic pressure in rat heart <i>B. H. L. Chua, L. A. Russo, E. E. Gordon, B. J. Kleinhans, and H. E. Morgan</i>	C323
Compartmentation of carbohydrate metabolism in vascular smooth muscle <i>R. M. Lynch and R. J. Paul</i>	C328
Peripheral nerve as an osmometer: role of endoneurial capillaries in frog sciatic nerve <i>S. Odman, H. Levitan, P. J. Robinson, M. E. Michel, P. Ask, and S. I. Rapoport</i>	C335
Effect of <i>N</i> ⁶ -(L-2-phenylisopropyl)adenosine and insulin on cAMP metabolism in 3T3-L1 adipocytes <i>M. L. Elks, M. Jackson, V. C. Manganiello, and M. Vaughan</i>	C342

No. 4. APRIL 1987

Mitochondrial transmembrane potential and pH gradient during anoxia <i>B. S. Andersson, T. Y. Aw, and D. P. Jones</i>	C349
Mitochondrial transmembrane ion distribution during anoxia <i>T. Y. Aw, B. S. Andersson, and D. P. Jones</i>	C356
Suppression of mitochondrial respiratory function after short-term anoxia <i>T. Y. Aw, B. S. Andersson, and D. P. Jones</i>	C362
Two types of cells with central innervation in pineal gland of guinea pigs <i>H. C. Parkington, I. McCance, and H. A. Coleman</i>	C369
Ba ²⁺ induces contraction in swine carotid artery by mobilizing intracellular Ca ²⁺ <i>C.-M. Hai and R. A. Murphy</i>	C378
Adenylate cyclase stimulation alters transport in frog retinal pigment epithelium <i>B. A. Hughes, S. S. Miller, and D. B. Farber</i>	C385
PO ₂ -dexamethasone interactions in fibroblast growth and antioxidant enzyme activity <i>P. S. Randhawa, M. A. Hass, L. Frank, and D. Massaro</i>	C396
Cellular calcium regulates outward currents in rabbit intestinal smooth muscle cell <i>Y. Ohya, K. Kitamura, and H. Kuriyama</i>	C401
Insulin action on electrophysiological properties of apical and basolateral membranes of frog skin <i>H. F. Schoen and D. Ertij</i>	C411
Ca ²⁺ and MgATP ²⁻ dependence of shortening in skinned single smooth muscle cells <i>D. M. Warshaw, W. J. McBride, and M. S. Hubbard</i>	C418
Vasoactive intestinal peptide stimulates alkali excretion in turtle urinary bladder <i>J. H. Durham, C. Matons, and W. A. Brodsky</i>	C428
Endotoxin increases superoxide dismutase in cultured bovine pulmonary endothelial cells <i>Y. Shiki, B. O. Meyrick, K. L. Brigham, and I. M. Burr</i>	C436

SPECIAL COMMUNICATIONS

Synthesis and characterization of ¹⁹ F NMR chelators for measurement of cytosolic free Ca <i>L. A. Levy, E. Murphy, and R. E. London</i>	C441
--	------

RAPID COMMUNICATIONS

Pretranslational regulation of myoglobin gene expression <i>L. E. Underwood and R. S. Williams</i>	C450
---	------

ANNOUNCEMENTS

C454

EDITORIAL

Three cheers for Cell Physiology, everybody
J. S. Cook

C455

INVITED REVIEW

Mutant isolation and gene transfer as tools in study of transport proteins
J. J. Gargus

C457

Aldosterone regulation of Na^+ transport and $\text{Na}^+ \text{-K}^+$ -ATPase in A6 cells:
 role of growth conditions

M. P. Paccolat, K. Geering, H. P. Gaeggeler, and B. C. Rossier

C468

Effect of iron chelators on placental uptake and transfer of iron in rat
C. T. Wong, H. J. McArdle, and E. H. Morgan

C477

Lactate transport by cardiac sarcolemmal vesicles
T. L. Trosper and K. D. Philipson

C483

Characterization of $\text{Na}^+ \text{-H}^+$ antiport in type II alveolar epithelial cells
E. P. Nord, S. E. S. Brown, and E. D. Crandall

C490

Na/Ca exchange in barnacle muscle cells has a stoichiometry of 3 Na^+ /1 Ca^{2+}
H. Rasgado-Flores and M. P. Blaustein

C499

Na microelectrode study of pathways of Na entry into *Amphiuma*
 intestinal absorptive cells

J. F. White, D. Ellingsen, and S. Mayer

C505

Selectable mutations altering two mechanisms of mammalian K^+ transport are dominant
J. J. Gargus

C515

Calmodulin antagonists inhibit latch bridges in detergent skinned swine carotid media
S. Moreland, D. K. Little, and R. S. Moreland

C523

A gated ^{31}P NMR study of tetanic contraction in rat muscle depleted of phosphocreatine
E. A. Shoubridge and G. K. Radda

C532

Effects of Ca^{2+} , Mg^{2+} , and myosin phosphorylation of skinned smooth muscle fibers
R. J. Barsotti, M. Ikebe, and D. J. Hartshorne

C543

Functional characterization of cell-to-cell coupling in cultured rat aortic smooth muscle
M. G. Blennerhassett, M. S. Kannan, and R. E. Garfield

C555

Band 3 is the basolateral anion exchanger of dark epithelial cells of
 turtle urinary bladder

D. Drenckhahn, M. Oelmann, P. Schaaf, M. Wagner, and S. Wagner

C570

SPECIAL COMMUNICATIONS

Measurements on permeabilized skeletal muscle fibers during continuous activation

H. L. Sweeney, S. A. Corteselli, and M. J. Kushmerick

C575

ANNOUNCEMENTS

C581

BRIEF REVIEW

How large is the drop in PO_2 between cytosol and mitochondrion?

A. Clark, Jr., P. A. A. Clark, R. J. Connell, T. E. J. Gayeski, and C. R. Honig

C583

ATP-dependent regulation of cytoplasmic free calcium in nerve terminals

H. Rasgado-Flores and M. P. Blaustein

C588

Role of sodium-calcium exchange in regulation of intracellular calcium in nerve
 terminals

S. Sanchez-Armass and M. P. Blaustein

C595

Strontium, barium, and manganese metabolism in isolated presynaptic nerve terminals <i>H. Rasgado-Flores, S. Sanchez-Armass, M. P. Blaustein, and D. A. Nachshen</i>	C604
Trypsin- and chymotrypsin-induced chemiluminescence by isolated rat glomeruli <i>A. Basci and S. V. Shah</i>	C611
Human platelet diffusional water permeability measured by nuclear magnetic resonance <i>K. R. Wong and A. S. Verkman</i>	C618
Origin of transport inhibition after omission of serosal sodium <i>W. Nagel</i>	C623
Progressive metabolite changes in individual human muscle fibers with increasing work rates <i>J. L. Iuy, M. M.-Y. Chi, C. S. Hintz, W. M. Sherman, R. P. Hellendall, and O. H. Lowry</i>	C630
Hormone 1 α ,25-dihydroxyvitamin D ₃ modulates heat shock response in monocytes <i>B. S. Polla, A. M. Healy, W. C. Wojno, and S. M. Krane</i>	C640
Norepinephrine metabolism in neuronal cultures is increased by angiotensin II <i>C. Sumners, S. L. Shalit, C. J. Kalberg, and M. K. Raizada</i>	C650
Covalent labeling of hydrosomic toad bladder receptors with an antagonist of vasotocin <i>P. Eggena, A. Buku, C. L. Ma, L. I. Somoza, H. R. Wyssbrod, I. L. Schwartz, and J. D. Glass</i>	C657
Multiple pathways for uptake of paraquat, methylglyoxal bis(guanylhydrazone), and polyamines <i>T. L. Byers, R. Kameji, D. E. Rannels, and A. E. Pegg</i>	C663
β -Adrenergic stimulation of ion transport in primary cultures of avian salt glands <i>R. J. Lowy and S. A. Ernst</i>	C670
Measurement of superoxide release from single pulmonary alveolar macrophages <i>K. A. DiGregorio, E. V. Cilento, and R. C. Lantz</i>	C677

Subject Index to Volume 21

C685

Author Index to Volume 21

C691

CORRIGENDA

Volume 251, August 1986

Volume 20, August 1986

Page C186: John P. Johnson, Doris Jones, and William P. Wiesmann. "Hormonal regulation of Na⁺-K⁺-ATPase in cultured epithelial cells." *Page C187-C189:* the appropriate units for the activity of Na⁺-K⁺-ATPase should be micromoles per milligram protein per hour, not micromoles per microgram protein per hour for Table 1, Figure 3, and text.

Volume 251, September 1986

Volume 20, September 1986

Page C448: Oscar A. Candia, Lisa R. Grillone, and Teh-Ching Chu. "Forskolin effects on frog and rabbit corneal epithelium ion transport." *Page C452:* the equation should read

$$\begin{aligned}
 E_a &= \frac{PD_t R_a / R_b}{(R_p - R_t)(1 + R_a / R_b)} + PD_a \\
 R_a &= \frac{(E_a - PD_a)}{PD_t / R_p} \\
 E_b &= \frac{PD_t R_b}{R_p} + PD_t - PD_a \\
 \text{Further, } R_b &= \frac{R_a}{R_a / R_b}
 \end{aligned}$$

American Journal of Physiology: Endocrinology and Metabolism

No. 1. JANUARY 1987

Pulsatile hyperglucagonemia fails to increase hepatic glucose production in normal man <i>G. Paolisso, A. J. Scheen, A. S. Luyckx, and P. J. Lefebvre</i>	E1
Maitotoxin stimulates steroid and peptide hormone secretion by swine luteal tissue <i>J. D. Veldhuis, K. Yoshida, W. DuBois, and M. J. Fields</i>	E8
Acute effect of calcium and insulin on hyperfiltration of early diabetes <i>N. Bank, M. A. Lahorra, and H. S. Aynedjian</i>	E13
Influence of zinc on growth, somatomedin, and glycosaminoglycan metabolism in rats <i>M. S. Bolze, R. D. Reeves, F. E. Lindbeck, and M. J. Elders</i>	E21
Interleukin 1-induced depression of iron and zinc: role of granulocytes and lactoferrin <i>S. E. Goldblum, D. A. Cohen, M. Jay, and C. J. McClain</i>	E27
Effect of exercise intensity and starvation on activation of branched-chain keto acid dehydrogenase by exercise <i>G. J. Kasperek and R. D. Snider</i>	E33
Regulation of 25-hydroxyvitamin D ₃ metabolism in chick embryo <i>R. T. Turner, J. S. Graves, and N. H. Bell</i>	E38
Effects of forskolin on bone in organ culture <i>N. S. Krieger and P. H. Stern</i>	E44
Glutamine metabolism in rat skeletal muscle wounded with λ -carrageenan <i>J. E. Albina, W. Henry, P. A. King, J. Shearer, B. Mastrofrancesco, L. Goldstein, and M. D. Caldwell</i>	E49
Estrogen effects on angiotensin receptors are modulated by pituitary in female rats <i>J. G. Douglas</i>	E57
Cold-induced increase in brown fat thyroxine 5'-monodeiodinase is attenuated in Zucker obese rat <i>S. Y. Wu, J. S. Stern, D. A. Fisher, and Z. Glick</i>	E63
Adrenergic modulation of potassium metabolism during exercise in normal and diabetic humans <i>P. Castellino, D. C. Simonson, and R. A. DeFronzo</i>	E68
Non-steady-state measurement of glucose turnover in rats by using a one-compartment model <i>J. Proietto, F. Rohner-Jeanrenaud, E. Ionescu, J. Terrettaz, J.-F. Sauter, and B. Jeanrenaud</i>	E77
Acute metabolic effects of adrenergic agents in swine <i>H. J. Mersmann</i>	E85
Uptake of exogenous spermidine by rat lungs perfused in situ <i>D. E. Rannels and J. L. Addison</i>	E96
Neurotensin releases norepinephrine differentially from perfused hypothalamus of sated and fasted rat <i>T. F. Lee, A. H. Rezvani, J. R. Hepler, and R. D. Myers</i>	E102
Thermic effects of food and exercise in lean and obese men of similar lean body mass <i>K. R. Segal, B. Gutin, J. Albu, and F. X. Pi-Sunyer</i>	E110
Specificity of effect of osmolality on aldosterone secretion <i>R. E. Taylor, Jr., J. T. Glass, K. J. Radke, and E. G. Schneider</i>	E118
Complete inhibition of creatine kinase in isolated perfused rat hearts <i>E. T. Fossl and H. Hoefeler</i>	E124
Vital microscopy of islet blood flow: catecholamine effects in normal and ob/ob mice <i>P. Rooth and I.-B. Täljedal</i>	E130
Fate of circulating renin in conscious rats <i>S. Kim, H. Iwao, N. Nakamura, F. Ikemoto, and K. Yamamoto</i>	E136

RAPID COMMUNICATIONS

A serum protease cleaves proANF into a 14-kilodalton peptide and ANF

*K. D. Bloch, J. B. Zisfein, M. N. Margolies, C. J. Homcy,
J. G. Seidman, and R. M. Graham*

E147

Clenbuterol, a β_2 -agonist, retards atrophy in denervated muscles

R. J. Zeman, R. Ludemann, and J. D. Etlinger

E152

ANNOUNCEMENTS

E156

No. 2. FEBRUARY 1987

EDITORIAL REVIEW

Plasma protein-mediated transport of steroid and thyroid hormones

W. M. Pardridge

E157

Pregnancy-induced insulin resistance in liver and skeletal muscles
of the conscious rabbit

S. Hauguel, M. Gilbert, and J. Girard

E165

Insulin receptor binding and protein kinase activity in muscles of trained rats

G. L. Dohm, M. K. Sinha, and J. F. Caro

E170

Triiodothyronine stimulates cartilage growth and maturation by different mechanisms
W. M. Burch and J. J. Van Wyk

E176

Effect of insulin on in vivo glucose utilization in individual tissues
of anesthetized lactating rats

A.-F. Burnol, P. Ferre, A. Leturque, and J. Girard

E183

Effect of short-term fasting on lipolytic responsiveness in normal
and obese human subjects

R. R. Wolfe, E. J. Peters, S. Klein, O. B. Holland, J. Rosenblatt, and H. Gary, Jr.

E189

WR-2721 inhibits parathyroid adenylate cyclase

*M. E. Weaver, J. Morrissey, C. McConkey, Jr., S. Goldfarb,
E. Slatopolsky, and K. J. Martin*

E197

Increased sensitivity of the genetically obese mouse to corticosterone
K. Tokuyama and J. Himms-Hagen

E202

First-pass hepatic extraction and metabolic effects of insulin and insulin analogues

*Z. Chap, T. Ishida, J. Chou, C. J. Hartley, M. L. Entman, D. Brandenburg,
R. H. Jones, and J. B. Field*

E209

Lipolytic response to glucose infusion in human subjects

R. R. Wolfe and E. J. Peters

E218

Mineralocorticoid specificity of renal type I receptors: in vivo binding studies

K. Sheppard and J. W. Funder

E224

Selective suppression of hepatic glucose output by human proinsulin in the dog

*M. Lavelle-Jones, M. H. Scott, O. Kolterman, A. H. Rubenstein,
J. M. Olefsky, and A. R. Moossa*

E229

Effect of warm or cold exposure on GDP binding and uncoupling protein
in rat brown fat

P. Trayhurn, M. Ashwell, G. Jennings, D. Richard, and D. M. Stirling

E237

Insulin and islet cell transplants: effects on diabetic rat cardiac myofibril ATPase

I. M. MacLean, R. V. Rajotte, and A. N. Belcastro

E244

Polymyxin B selectively inhibits insulin effects on transport in isolated muscle

T. Grémeaux, J.-F. Tanti, E. Van Obberghen, and Y. Le Marchand-Brustel

E248

β -Endorphin-induced hyperglycemia in rabbits: effects of a glucose or arginine challenge

*R. L. Schleicher, R. K. Chawla, P. A. Coan,
D. Martino-Saltzman, and D. C. Collins*

E255

Thyroid function and cold acclimation in the hamster, *Mesocricetus auratus*

T. E. Tomasi and B. A. Horwitz

E260

Secretory pattern of canine growth hormone

M. B. French, P. Vaitkus, E. Cukerman, A. Sirek, and O. V. Sirek

E268

RAPID COMMUNICATIONS

Insulin receptor kinase is hyperresponsive in adipocytes of young obese Zucker rats

*A. Debant, M. Guerre-Millo, Y. Le Marchand-Brustel, P. Freychet,
M. Lavau, and E. Van Obberghen*

E273

Atrial natriuretic factor in maternal and fetal sheep

C. Y. Cheung, D. M. Gibbs, and R. A. Brace

E279

No. 3. MARCH 1987**CENTENNIAL MESSAGE**

Wither or whither?

A. P. Fishman

E283

The American Physiological Society in its centenary year

H. E. Morgan

E285

Cortisol-induced inhibition of ovine renin and aldosterone responses to hypotension

C. E. Wood and J. Silbiger

E287

Regulation of albumin synthesis by hormones and amino acids in primary cultures of rat hepatocytes

S. M. Hutson, C. Stinson-Fisher, R. Shiman, and L. S. Jefferson

E291

Effects of insulin on hexose transport across blood-brain barrier in normoglycemia

*H. Namba, G. Lucignani, A. Nehlig, C. Patlak, K. Pettigrew,
C. Kennedy, and L. Sokoloff*

E299

Transport epithelial characteristics of cultured bovine pituitary follicular cells

N. Ferrara, D. K. Fujii, P. C. Goldsmith, J. H. Widdicombe, and R. I. Weiner

E304

Role of acidosis in regulating hepatic nitrogen metabolism during fasting in conscious dog

E. Cersosimo, P. E. Williams, D. O'Donovan, D. B. Lacy, and N. N. Abumrad

E313

Effects of D-amino acid substituents on degradation of LHRH analogues by proximal tubule

G. Flouret, T. Majewski, D. R. Peterson, A. J. Kenny, and F. A. Carone

E320

Portal copper transport in rats by albumin

D. T. Gordon, A. S. Leinart, and R. J. Cousins

E327

Relationship between plasma and platelet epinephrine concentrations in humans

S. G. Rosen, J. A. Sanfield, L. A. Morrow, and A. J. Zweifler

E334

Membrane currents of identified isolated rat corticotropes and gonadotropes

C. Marchetti, G. V. Childs, and A. M. Brown

E340

Secretion from corticotropes after avidin-fluorescein stains for biotinylated ligands (CRF or AVP)

G. V. Childs, G. Unabia, J. A. Burke, and C. Marchetti

E347

A model-free approach to estimation of relative potency in dose-response curve analysis

V. Guardabasso, D. Rodbard, and P. J. Munson

E357

Effect of anesthesia on glucose production and utilization in rats

L. Pénicaud, P. Ferré, J. Kande, A. Leturque, T. Issad, and J. Girard

E365

Asperlicin antagonizes stimulatory effects of cholecystokinin on isolated islets

W. S. Zawalich and V. A. Diaz

E370

Metabolic basis of diethylaminoethoxyhexestrol-induced phospholipid fatty liver

M. Kubo and K. Y. Hostettler

E375

Effect of fetal growth on maternal protein metabolism in postabsorptive rat

P. R. Ling, B. R. Bistrian, G. L. Blackburn, and N. Istfan

E380

Regression of brown adipose tissue mitochondrial function and structure in neonatal goats

I. Vatnick, R. S. Tyzbir, J. G. Welch, and A. P. Hooper

E391

Glucocorticoid-mediated activation of muscle branched-chain α -keto acid dehydrogenase in vivo

K. P. Block, W. B. Richmond, W. B. Mehard, and M. G. Buse

E396

Alanine uptake by liver at midpregnancy in rats <i>M. Pastor-Anglada, X. Remesar, and G. Bourdel</i>	E408
Nuclear triiodothyronine receptor binding characteristics and occupancy in obese (<i>ob/ob</i>) mice <i>F. B. Hillgartner and D. R. Romsos</i>	E414
Effect of diet on insulin binding and glucose transport in rat sarcolemmal vesicles <i>G. K. Grinditch, R. J. Barnard, E. Sternlicht, R. H. Whitson, and S. A. Kaplan</i>	E420
Epinephrine potentiates adenosine-stimulating effect on glucagon secretion <i>R. Gross, G. Bertrand, G. Ribes, P. Petit, and M. M. Loubatières-Mariani</i>	E426

SPECIAL COMMUNICATIONS

Validation of a new method for determination of free fatty acid turnover <i>J. M. Miles, M. G. Ellman, K. L. McClean, and M. D. Jensen</i>	E431
---	------

LETTERS TO THE EDITOR

Lactate production cannot be measured with tracer techniques <i>K. Sahlin</i>	E439
--	------

No. 4. APRIL 1987

Effect of insulin and glucocorticoids on glucose transporters in rat adipocytes <i>C. Carter-Su and K. Okamoto</i>	E441
Adrenocortical hormone secretory response to chronic NH ₄ Cl-induced metabolic acidosis <i>M. Schambelan, A. Sebastian, B. A. Katuna, and E. Arteaga</i>	E454
Deprivation of corticosterone does not prevent onset of obesity in Zucker <i>fa/fa</i> pups <i>R. Bazin, E. Planche, F. Dupuy, S. Krief, and M. Lavau</i>	E461
Sexual dimorphism in adrenergic regulation of hepatic glycogenolysis <i>R. K. Studer</i>	E467
Physiological factors affecting secretion of parotid hormone <i>J. Leonora, J.-M. Tieche, and J. Celestin</i>	E477
Role of calcium in effects of atrial natriuretic peptide on aldosterone production in adrenal glomerulosa cells <i>L. Chartier and E. L. Schiffrin</i>	E485
Effects of insulin and epinephrine on Na ⁺ -K ⁺ and glucose transport in soleus muscle <i>T. Clausen and J. A. Flatman</i>	E492
Role of luteinizing hormone in luteotropic complex of pregnant hamster <i>H. Tamura and G. S. Greenwald</i>	E500
Effect of aldosterone on sodium and potassium concentrations in human mononuclear leukocytes <i>M. Wehling, D. Armanini, T. Strasser, and P. C. Weber</i>	E505
The cat: an animal model for studies of inactive renin <i>N. Glorioso, C. Troffa, J. H. Laragh, S. A. Atlas, D. Marion, and J. E. Sealey</i>	E509
Protein synthesis during hypoxia in fetal lambs <i>J. R. Milley</i>	E519
Hippocampal and renal type I receptors are differentially regulated <i>G. Stephenson and J. Funder</i>	E525
Thresholds for physiological effects of plasma catecholamines in fetal sheep <i>J. F. Padbury, J. K. Ludlow, M. G. Ervin, H. C. Jacobs, and J. A. Humme</i>	E530
Effect of insulin on osmoregulation of vasopressin <i>T. P. Vokes, P. R. Aycinena, and G. L. Robertson</i>	E538

SPECIAL COMMUNICATIONS

Impact of intensive venous sampling on characterization of pulsatile GH release <i>W. S. Evans, A. C. S. Faria, E. Christiansen, K. Y. Ho, J. Weiss, A. D. Rogol, M. L. Johnson, R. M. Blizzard, J. D. Veldhuis, and M. O. Thorner</i>	E549
Reassessment of primed constant-infusion tracer method to measure urea kinetics <i>F. Jahoor and R. R. Wolfe</i>	E557

RAPID COMMUNICATIONS

The pancreatic-adrenocortical-pituitary clamp technique for study of counterregulation in humans

*P. De Feo, G. Perriello, M. M. Ventura, P. Brunetti, F. Santeusanio,
J. E. Gerich, and G. B. Bolli*

E565

LETTERS TO THE EDITOR

Mathematical analysis of metabolic pathways

J. Katz, J. K. Kelleher

E571

No. 5. MAY 1987

Studies of gut and hepatic metabolism in conscious rabbits

M. C. Pere, M. Gilbert, R. Assan, and F. C. Battaglia

E573

Regional blood flow and skeletal muscle energy status in endotoxemic rats

*M. M. Jepson, M. Cox, P. C. Bates, N. J. Rothwell, M. J. Stock,
E. B. Cady, and D. J. Millward*

E581

Opposite regulatory effects of cAMP and cGMP on sugar uptake in rat thymocytes

J. Segal

E588

Effect of a protein synthetic inhibitor on in vivo estimates of protein synthesis in dogs

W. F. Schwenk, E. Rubanyi, and M. W. Haymond

E595

Appraising the nature of luteinizing hormone secretory events in men

*J. D. Veldhuis, V. Guardabasso, A. D. Rogol, W. S. Evans, K. E. Oerter,
M. L. Johnson, and D. Rodbard*

E599

Underestimation of hepatic glucose production by radioactive and stable tracers

G. M. Argoud, D. S. Schade, and R. P. Eaton

E606

Two daily glucagon injections induce nonshivering thermogenesis in Muscovy ducklings

H. Barré, F. Cohen-Adad, and J.-L. Rouanet

E616

Sensitivity of myofibrillar proteins to glucocorticoid-induced muscle proteolysis

A. G. Kayali, V. R. Young, and M. N. Goodman

E621

Characterization of mitochondrial-uncoupling protein in bovine fetus and newborn calf

L. Casteilla, C. Forest, J. Robelin, D. Ricquier, A. Lomber, and G. Ailhaud

E627

Defective regulation of vasopressin gene expression in Brattleboro rats

J. A. Majzoub, E. J. Carrazana, J. S. Shulman, K. J. Baker, and R. L. Emanuel

E637

Evidence for lack of a role of cGMP in effect of α -hANP on aldosterone inhibition

*H. Matsuoka, M. Ishii, Y. Hirata, K. Atarashi, T. Sugimoto,
K. Kangawa, and H. Matsu*

E643

Glucose and fatty acid metabolism in normal and diabetic rabbit cerebral microvessels

V. Hingorani and P. Brecher

E648

Regional variation in HDL metabolism in human fat cells: effect of cell size

J.-P. Despres, B. S. Fong, P. Julien, J. Jimenez, and A. Angel

E654

Non-insulin-mediated glucose uptake predominates in postabsorptive dogs

M. Lavelle-Jones, M. H. Scott, O. Kolterman, A. R. Moossa, and J. M. Olefsky

E660

Halothane anesthesia does not suppress sympathetic activation

produced by neuroglucopenia

*P. J. Havel, D. E. Flatness, J. B. Halter, J. D. Best,
R. C. Veith, and G. J. Taborsky, Jr.*

E667

Use of adult rat cardiomyocytes to study cardiac glycogen metabolism

C. D. Wolleben, S. R. Jaspers, and T. B. Miller, Jr.

E673

MODELING METHODOLOGY FORUM

Non-steady state: error analysis of Steele's model and developments for glucose kinetics

C. Cobelli, A. Mari, and E. Ferrannini

E679

Uptake and processing of glycoproteins by rat hepatic mannose receptor

M. E. Taylor, M. S. Leaning, and J. A. Summerfield

E690

RAPID COMMUNICATIONSAltered hepatic vasopressin and α_1 -adrenergic receptors after chronic endotoxin infusion*B. L. Roth and J. A. Spitzer*

E699

ANNOUNCEMENTS

E703

No. 6. JUNE 1987

Hydroosmotic responses to short pulses of vasotocin by toad bladder

P. Eggena

E705

Branched-chain amino acid metabolism in rat muscle: abnormal regulation in acidosis

R. C. May, Y. Hara, R. A. Kelly, K. P. Block, M. G. Buse, and W. E. Mitch

E712

Role of autonomic nervous system in postprandial thermogenesis in dogs

P. Diamond and J. LeBlanc

E719

Effects of tetracaine on insulin release and calcium handling by rat pancreatic islets

S. M. A. A. El Motal, M. C. M. Pian-Smith, and G. W. G. Sharp

E727

Norepinephrine storage, distribution, and release in diabetic cardiomyopathy

P. K. Ganguly, R. E. Beamish, K. S. Dhalla, I. R. Innes, and N. S. Dhalla

E734

Epinephrine increases plasma immunoreactive atrial natriuretic hormone levels in humans

J. A. Sanfield, Y. Shenker, R. J. Grekin, and S. G. Rosen

E740

Gut-liver interaction in glutamine homeostasis: portal ammonia role in uptake and metabolism

M. Buttrose, D. McKellar, and T. C. Welbourne

E746

Role of pancreatic somatostatin in determining glucagon response to arginine and morphine

L. J. Klaff and G. J. Taborsky, Jr.

E751

Cerebrospinal fluid changes in experimental cardiac arrest (maximal stress)

J. Wortsman, P. J. Foley, W. A. Tacker, E. Giacobini, P. E. Cryer, and S. Frank

E756

A decline in myocardial and hepatic norepinephrine turnover with age in Fischer 344 rats

R. S. Mazzeo and S. M. Horvath

E762

Stimulation of dog gastropancreatic hormone release by neuromedin B and its analogues

H. Mukai, K. Kawai, Y. Suzuki, K. Yamashita, and E. Munekata

E765

Insulin resistance and delayed clearance of peptide hormones in cirrhotic rat liver

T. P. Shankar, S. Drake, and S. S. Solomon

E772

Metabolic degradation and synthesis of calcitriol in spontaneously hypertensive rat

E. W. Young, C. H. Hsu, S. Patel, R. U. Simpson, and P. Komanicky

E778

Multiple effects of phorbol esters on hormone-sensitive adenylate cyclase activity in S49 lymphoma cells

J. D. Bell and L. L. Brunton

E783

SPECIAL COMMUNICATIONS

Animal model of primary hyperparathyroidism

P. Jaeger, W. Jones, M. Kashgarian, R. Baron, T. L. Clemens, G. V. Segre, and J. P. Hayslett

E790

RAPID COMMUNICATIONS

Melatonin rhythms in fetal and maternal circulation during pregnancy in sheep

S. M. Yellon and L. D. Longo

E799

ANNOUNCEMENTS

E803

Subject Index to Volume 15

E805

Author Index to Volume 15

E813

CORRIGENDA

Volume 251, August 1986

Volume 14, August 1986

Pages E209-E214: Dan M. Cooper, David H. Wasserman, Mladen Vranic, and Karlman Wasserman. "Glucose turnover in response to exercise during high- and low- FIO_2 breathing in man." Page E211: RESULTS, the mean base-line value of R_d during hypoxia was $2.84 \pm 1.19 \text{ mg} \cdot \text{min}^{-1} \cdot \text{kg}^{-1}$ rather than the reported $3.16 \pm 1.39 \text{ mg} \cdot \text{min}^{-1} \cdot \text{kg}^{-1}$, and during hyperoxia the mean base-line value of R_d was $3.79 \pm 1.11 \text{ mg} \cdot \text{min}^{-1} \cdot \text{kg}^{-1}$ rather than the reported $3.52 \pm 1.15 \text{ mg} \cdot \text{min}^{-1} \cdot \text{kg}^{-1}$. The values are correct for all of the published statistical analyses, percent changes, Figs. 1-5, and "Abstract."

American Journal of Physiology: Gastrointestinal and Liver Physiology

No. 1. JANUARY 1987

EDITORIAL REVIEW

The relationship between gastrointestinal motility and secretion
B. Greenwood and J. S. Davison

G1

Role of GIP and insulin in glucose-induced changes in intestinal motility patterns <i>P. Thor, J. Laskiewicz, J. W. Konturek, S. J. Konturek, and W. Creutzfeldt</i>	G8
Flow across the canine ileocolonic junction: role of the ileocolonic sphincter <i>W. Kruis, S. Phillips, and A. Zinsmeister</i>	G13
Effects of luminal salt concentration on electrical pathways in <i>Necturus</i> antrum <i>D. I. Sobel, S. W. Ashley, R. A. Swarm, C. D. Moore, and L. Y. Cheung</i>	G19
Ontogeny of rat gastric H ⁺ -K ⁺ -ATPase activity <i>F. Hervatin, E. Moreau, R. Ducroc, B. Garzon, P. Avril, P. Millet, and J. P. Geloso</i>	G28
Transport of acidic amino acids by human jejunal brush-border membrane vesicles <i>V. M. Rajendran, J. M. Harig, M. B. Adams, and K. Ramaswamy</i>	G33
Gastrin is not a physiological regulator of pancreatic exocrine secretion in the dog <i>E. Köhler, C. Beglinger, V. Eysselein, U. Grötzing, and K. Gyr</i>	G40
Regulation of Na-Cl absorption in rabbit proximal colon in vitro <i>J. H. Sellin and R. De Soignie</i>	G45
A carrier-mediated system for transport of biotin in rat intestine in vitro <i>H. M. Said and R. Redha</i>	G52
Regulation of transmembrane electrical potential gradient in rat hepatocytes in situ <i>J. G. Fitz and B. F. Scharschmidt</i>	G56
Pyloric ceca of fish: a "new" absorptive organ <i>R. K. Buddington and J. M. Diamond</i>	G65
Carbachol regulates cholecystokinin receptor on pancreatic acinar cells <i>T. Honda, H. Adachi, M. Noguchi, S. Sato, S. Onishi, E. Aoki, and K. Torizuka</i>	G77
Liver cell membrane solubilization may control maximum secretory rate of cholic acid in the rat <i>I. M. Yousef, S. Barnwell, F. Gratton, B. Tuchweber, A. Weber, and C. C. Roy</i>	G84
Pressure and length adaptations in isolated cat stomach <i>K. Schulze-Delrieu and S. S. Shirazi</i>	G92
Ionic regulation of Na absorption in proximal colon: cation inhibition of electroneutral Na absorption <i>J. H. Sellin and R. De Soignie</i>	G100
Na-H exchange regulates intracellular pH in isolated rat hepatocyte couples <i>R. M. Henderson, J. Graf, and J. L. Boyer</i>	G109
Modulation of hepatic biotransformation and biliary excretion of bile acid by age and sinusoidal bile acid load <i>U. Baumgartner, K. Miyai, and W. G. M. Hardison</i>	G114
Homologous desensitization to prostaglandins in rabbit ileum <i>M. W. Musch, M. Field, R. J. Miller, and J. S. Stoff</i>	G120
Effect of enkephalins on colonic mechanoreceptor synaptic input to inferior mesenteric ganglion <i>H.-D. Shu, J. A. Love, and J. H. Szurszewski</i>	G128
Coordination of electrical activities in muscle layers of the pig colon <i>J. D. Huizinga, E. Chow, N. E. Diamant, and T. Y. El-Sharkawy</i>	G136

RAPID COMMUNICATIONS

Gastrin receptor characterization: affinity cross-linking of the gastrin receptor on canine gastric parietal cells

M. Matsumoto, J. Park, and T. Yamada

G143

EDITORIAL REVIEW

Formation and actions of calcium-mobilizing messenger, inositol 1,4,5-trisphosphate	G149
<i>J. W. Putney, Jr.</i>	
Vascular reactivity in experimental portal hypertension	
<i>A. Bomzon and L. M. Blendis</i>	G158
Effects of Na^+ replacement and amiloride on ursodeoxycholic acid-stimulated choleresis and biliary bicarbonate secretion	
<i>J. R. Lake, R. W. Van Dyke, and B. F. Scharschmidt</i>	G163
Calcium transport by rat duodenal villus and crypt basolateral membranes	
<i>J. R. F. Walters and M. M. Weiser</i>	G170
Role of sulfate ester in influencing biologic activity of cholecystokinin-related peptides	
<i>R. Vinayek, R. T. Jensen, and J. D. Gardner</i>	G178
VIP and PHI in the pig pancreas: coexistence, corelease, and cooperative effects	
<i>J. J. Holst, J. Fahrenkrug, S. Knuhtsen, S. L. Jensen, O. V. Nielsen, J. M. Lundberg, and T. Hökfelt</i>	G182
Intestinal blood flow and oxygen uptake in the neonatal piglet during reduced perfusion pressure	
<i>P. T. Nowicki, N. B. Hansen, and J. A. Menke</i>	G190
Effect of central administration of motilin on migrating complexes in the dog	
<i>M. Hashmonai, V. L. W. Go, T. Yaksh, and J. H. Szurszewski</i>	G195
Mechanisms involved in ketone body release by rat liver cells: influence of pH and bicarbonate	
<i>P. Fafournoux, C. Demigné, and C. Rémesy</i>	G200
Effect of epidermal growth factor on polyamine synthesizing enzymes in rat enterocytes	
<i>L. R. Fitzpatrick, P. Wang, and L. R. Johnson</i>	G209
Calcitonin gene-related peptide inhibits acid secretion without modifying blood flow	
<i>F. W. Leung, E. G. Tallos, Y. F. Tache, and P. H. Guth</i>	G215
Hypercholeresis induced by norchenodeoxycholate in biliary fistula rodent	
<i>K. R. Palmer, D. Gurantz, A. F. Hofmann, L. M. Clayton, L. R. Hagey, and S. Cecchetti</i>	G219
Folate transport by human intestinal brush-border membrane vesicles	
<i>H. M. Said, F. K. Ghishan, and R. Redha</i>	G229
Effects of ethanol on gastric epithelial cell phospholipid dynamics and cellular function	
<i>R. E. Bailey, R. A. Levine, J. Nandi, E. H. Schwartzel, Jr., D. H. Beach, P. N. Borer, and G. C. Levy</i>	G237
Inhibition of Na^+-P_i cotransporter in small gut brush border by phosphonocarboxylic acids	
<i>M. Loghman-Adham, M. Szczepanska-Konkel, A. N. K. Yusufi, M. Van Scoy, and T. P. Dousa</i>	G244
Quantitative assessment of villous motility	
<i>W. A. Womack, J. A. Barrowman, W. H. Graham, J. N. Benoit, P. R. Kviety, and D. N. Granger</i>	G250
Hyperglucagonemia and hyperkinetic circulation after portacaval shunt in the rat	
<i>D. Kravetz, M. Arderiu, J. Bosch, J. Fuster, J. Visa, R. Casamitjana, and J. Rodés</i>	G257
A high linoleic acid diet diminishes enhanced intestinal uptake of sugars in diabetic rats	
<i>A. B. R. Thomson, M. Keelan, M. T. Clandinin, and K. Walker</i>	G262
CCK-5: sequence analysis of a small cholecystokinin from canine brain and intestine	
<i>J. Shively, J. R. Reeve, Jr., V. E. Eysselein, C. Ben-Avram, S. R. Vigna, and J. H. Walsh</i>	G272
Rat hepatic bile acid sulfotransferase: enzyme response to androgens and estrogens	
<i>R. H. Collins, L. Lack, and P. G. Killenberg</i>	G276

Characteristics of glycol-L-proline transport in intestinal brush-border membrane vesicles

V. M. Rajendran, J. M. Harig, and K. Ramaswamy

G281

ANNOUNCEMENTS

G287

No. 3. MARCH 1987

CENTENNIAL MESSAGE

Wither or whither?

A. P. Fishman

G289

The American Physiological Society in its centenary year

H. E. Morgan

G291

Site and mechanisms of action of kinins in rat ileal mucosa

G. Warhurst, M. Lees, N. B. Higgs, and L. A. Turnberg

G293

Small intestinal motility in fasted and postprandial states:
effect of transient vagosympathetic blockade

S. A. Chung and N. E. Diamant

G301

Distribution and monomer activity of cholesterol in micellar bile salt:
effect of cholesterol level

K. Chijiwa and W. G. Linscheer

G309

Biological activity of progastrin posttranslational processing intermediates

M. Matsumoto, J. Park, K. Sugano, and T. Yamada

G315

Kinetic evidence for separate systems in transport of D- and L-methionine
by rat small intestine

P. Brachet, F. Alvarado, and A. Puigserver

G320

Quantitative assessment of luminal stirring in the perfused small intestine of the rat

M. D. Levitt, C. A. Fetzer, J. M. Kneip, J. H. Bond, and D. G. Levitt

G325

Effect of morphine on electrophysiological properties of circular
and longitudinal muscles

R. J. Gilbert, S. K. Sarna, and D. R. Harder

G333

Bile acid inhibition of taurocholate uptake by rat hepatocytes: role of OH groups

S. Bellantani, W. G. M. Hardison, P. Marchegiano,

G. Zanasi, and F. Manenti

G339

Sensitivities of human jejunum, ileum, proximal colon, and gallbladder
to cholecystokinin octapeptide

J. E. Kellow, L. J. Miller, S. F. Phillips, A. C. Haddad,

A. R. Zinsmeister, and J. W. Charboneau

G345

Effects of ion substitution on transport and choleretic effect of ouabain

M. S. Anwer

G357

Tachykinins: local gastric effects and brain stem responses

W. D. Barber, G. D. Stevenson, and T. F. Burks

G365

Partial characterization of a nonmicellar system of cholesterol solubilization in bile

S. P. Lee, H. Z. Park, H. Madani, and E. W. Kaler

G374

Bovine pancreatic polypeptide as an antagonist of muscarinic cholinergic receptors

G.-Z. Pan, L. Lu, J.-M. Qian, and B.-G. Xue

G384

Short-term cholinergic desensitization of rat pancreatic secretory response

J. Asselin, L. Larose, and J. Morisset

G392

Intraluminal calcium modulates lipid dynamics of rat
intestinal brush-border membranes

P. K. Dudeja, T. A. Brasitus, R. Dahiya, M. D. Brown, D. Thomas, and K. Lau

G398

Characterization of receptors for VIP on pancreatic acinar cell plasma membranes
using covalent cross-linking

K. E. McArthur, C. L. Wood, M. S. O'Dorisio, Z.-C. Zhou,

J. D. Gardner, and R. T. Jensen

G404

Bombesin stimulation of gastrin release from canine gastrin cells in primary culture <i>A. S. Giraud, A. H. Soll, F. Cuttitta, and J. H. Walsh</i>	G413
Does aspirin damage canine gastric mucosa by reducing its surface hydrophobicity? <i>P. J. Goddard, B. A. Hills, and L. M. Lichtenberger</i>	G421
Participation of serotonin and substance P in the action of cholecystokinin on colonic motility <i>J. Wiley and C. Owyang</i>	G431

SPECIAL COMMUNICATIONS

Simultaneous measurements of ^{22}Na and ^{36}Cl in aqueous samples: a comparison of three different methods <i>P. K. Rangachari and D. McWade</i>	G436
---	------

RAPID COMMUNICATIONS

[D-Phe ¹²]bombesin analogues: a new class of bombesin receptor antagonists <i>P. Heinz-Erian, D. H. Coy, M. Tamura, S. W. Jones, J. D. Gardner, and R. T. Jensen</i>	G439
---	------

LETTERS TO THE EDITOR

Multiple mediators of type I hypersensitivity reactions in epithelia <i>A. W. Cuthbert and A. W. Baird; D. A. Russell</i>	G443
--	------

ANNOUNCEMENTS

G445

No. 4. APRIL 1987

Contribution of neurogenic and myogenic factors in the response of rat proximal colon to distension <i>C. A. Maggi, S. Manzini, and A. Meli</i>	G447
Stimulation-associated redistribution of $\text{H}^+ \text{-K}^+$ -ATPase activity in isolated gastric glands <i>T. Urushidani and J. G. Forte</i>	G458
Role of ornithine decarboxylase in functional development of rat gastric mucosa <i>N. O. McNeil, B. E. Eikenburg, and L. R. Johnson</i>	G466
Effect of histamine, norepinephrine, and nerves on vascular pressures in dog liver <i>W. W. Lautt and D. J. Legare</i>	G472
Taurocholate uptake by isolated skate hepatocytes: effect of albumin <i>D. J. Smith, M. Grossbard, E. R. Gordon, and J. L. Boyer</i>	G479
Paracrine regulation of gastric acid secretion by fundic somatostatin <i>M. L. Schubert, N. F. Edwards, A. Arimura, and G. M. Makhlouf</i>	G485
Effects of neuromedin B and neuromedin C on exocrine and endocrine rat pancreas <i>M. Otsuki, M. Fujii, T. Nakamura, S. Tani, T. Oka, H. Yajima, and S. Baba</i>	G491
Phorbol esters and A23187 regulate $\text{Na}^+ \text{-K}^+$ -pump activity in pancreatic acinar cells <i>S. R. Hootman, M. E. Brown, and J. A. Williams</i>	G499
Mechanism of pH effect on oleic acid and cholesterol absorption in the rat <i>K. Chijiwa and W. G. Linscheer</i>	G506
Electrical control activity of the lower esophageal sphincter in unanesthetized opossums <i>R. H. Holloway, E. L. Blank, I. Takahashi, W. J. Dodds, J. Dent, and S. K. Sarna</i>	G511
Vagal influence on gastroduodenal HCO_3^- secretion in the cat in vivo <i>O. Nylander, G. Flemström, D. Delbro, and L. Fändriks</i>	G522
Development of cholecystokinin binding sites in rat upper gastrointestinal tracts <i>P. H. Robinson, T. H. Moran, M. Goldrich, and P. R. McHugh</i>	G529
Processing of receptor-bound somatostatin: internalization and degradation by pancreatic acini <i>N. Viguerie, J. P. Estève, C. Susini, N. Vaysse, and A. Ribet</i>	G535

Mechanisms of active Cl^- secretion by frog gastric mucosa <i>W. W. Reenstra, J. D. Bettencourt, and J. G. Forte</i>	G543
Mechanisms of enhanced canine enteric absorption with intestinal pacing <i>S. Bjorck, K. A. Kelly, and S. F. Phillips</i>	G548
Dihydroxy bile salt-induced secretion of rubidium ion across the rabbit distal colon <i>R. W. Freil</i>	G554
Myoelectric activity of the small intestine during morphine dependence and withdrawal in rats <i>D. A. Kuperman, C. A. Sninsky, and D. F. Lynch</i>	G562
Luminal and plasma glucose concentrations on intestinal fluid absorption and lymph flow <i>J. S. Lee</i>	G568
Comparison of different dietary sugars as inducers of intestinal sugar transporters <i>D. H. Solberg and J. M. Diamond</i>	G574

SPECIAL COMMUNICATIONS

Manometry of canine ileocolonic sphincter: comparison of sleeve method to point sensors <i>E. M. M. Quigley, J. Dent, and S. F. Phillips</i>	G585
---	------

LETTERS TO THE EDITOR

All intense bursts of rhythmic activity may not be phase III activity <i>I. M. Lang and S. K. Sarna; M. Camilleri and J.-R. Malagelada</i>	G592
---	------

ANNOUNCEMENTS	G594
---------------	------

No. 5, MAY 1987

Reflex gastric relaxation in response to distention of the duodenum <i>F. De Ponti, F. Azpiroz, and J. R. Malagelada</i>	G595
Lymph protein concentration in initial and collecting lymphatics of the rat <i>D. C. Zawieja and B. J. Barber</i>	G602
Transepithelial transport of glutathione in vascularly perfused small intestine of rat <i>T. M. Hagen and D. P. Jones</i>	G607
Dependence of intestinal amino acid uptake on dietary protein or amino acid levels <i>W. H. Karasov, D. H. Solberg, and J. M. Diamond</i>	G614
Comparison of different dietary amino acids as inducers of intestinal amino acid transport <i>E. D. Stein, S. D. Chang, and J. M. Diamond</i>	G626
Characteristics of transient lower esophageal sphincter relaxation in humans <i>R. K. Mittal and R. W. McCallum</i>	G636
Sodium-independent, bicuculline-sensitive [^3H]GABA binding to isolated rat hepatocytes <i>G. Y. Minuk, C. E. Bear, and E. J. Sarjeant</i>	G642
Glucagon increases hepatic oxygen supply-demand ratio in pigs <i>S. Gelman, E. Dillard, and D. A. Parks</i>	G648
Effects of bethanechol and the octapeptide of cholecystokinin on colonic smooth muscle in the cat <i>W. J. Snape, Jr., S. T. Tan, and H. W. Kao</i>	G654
Apolipoprotein A-IV synthesis in rat intestine: regulation by dietary triglyceride <i>T. F. Apfelbaum, N. O. Davidson, and R. M. Glickman</i>	G662
Epithelial responses evoked by stimulation of submucosal neurons in guinea pig distal colon <i>A. Kuwahara, S. Bowen, J. Wang, C. Condon, and H. J. Cooke</i>	G667
Fore- and hindbrain mediation of gastric hypoacidity after intracerebral bombesin <i>M. W. Gunion and Y. Taché</i>	G675

Development of gastrointestinal surface. VIII. Lectin identification of carbohydrate differences <i>K. Y. Pang, J. L. Bresson, and W. A. Walker</i>	G685
Splanchnic blood flow during stimulation of gastrointestinal growth <i>M. G. Ulrich-Baker, W. R. Smidt, T. S. Gaginella, and D. N. Granger</i>	G692
Intracellular chloride activity in intact rat liver: relationship to membrane potential and bile flow <i>J. G. Fitz and B. F. Scharschmidt</i>	G699

MODELING METHODOLOGY FORUM

Pancreatic calcification and stone formation: a thermodynamic model of calcium in pancreatic juice <i>E. W. Moore and H. J. Verine</i>	G707
---	------

LETTERS TO THE EDITOR

Are H ₂ -receptors involved in the physiological regulation of gastric emptying? <i>C. Scarpignato and R. C. Heading; A. Dubois and D. O. Castell</i>	G719
---	------

ANNOUNCEMENTS	G721
---------------	------

No. 6. JUNE 1987

Freeze-thaw and high-voltage discharge allow macromolecule uptake into ileal brush-border vesicles <i>M. Donowitz, E. Emmer, J. McCullen, L. Reinlib, M. E. Cohen, R. P. Rood, J. Madara, G. W. G. Sharp, H. Murer, and K. Malmstrom</i>	G723
Effects of peptide YY on ³ Hbladder motility <i>R. L. Conter, J. J. Roslyn, and I. L. Taylor</i>	G736
Cephalic phase of gastroduodenal alkaline secretion <i>S. J. Konturek, P. Thor, J. Bilski, J. Tasler, and M. Cieszkowski</i>	G742
Splanchnic hemodynamics in portal hypertensive dogs with portal fibrosis <i>S. Sugita, K. Ohnishi, M. Saito, and K. Okuda</i>	G748
Cholinergic mechanisms in the pancreas after extrinsic denervation in the rat <i>J. Chariot, J. De La Tour, P. Anglade, and C. Rozé</i>	G755
Structural and functional maturation of rat gastrointestinal barrier with thyroxine <i>E. J. Israel, K. Y. Pang, P. R. Harmatz, and W. A. Walker</i>	G762
Proteins are secreted from heterogeneous prestored sources in the exocrine pancreas <i>P. E. Miller and J. W. Adelson</i>	G768
Absence of a cAMP-mediated antiabsorptive effect in an undifferentiated jejunal epithelium <i>R. J. MacLeod and J. R. Hamilton</i>	G776
Bradykinin-stimulated eicosanoid synthesis and secretion by rabbit ileal components <i>L. D. Lawson and D. W. Powell</i>	G783
Effect of tetraethylammonium on an evoked spike potential in feline colonic muscle <i>W. J. Snape, Jr., and S. T. Tan</i>	G791
Reflectance spectrophotometry for the assessment of gastroduodenal mucosal perfusion <i>F. W. Leung, T. Morishita, E. H. Livingston, T. Reedy, and P. H. Guth</i>	G797
Influence of apolipoprotein E on soluble and heparin-immobilized hepatic lipase <i>B. A. Landis, F. S. Rotolo, W. C. Meyers, A. B. Clark, and S. H. Quarfordt</i>	G805
Role of lipid peroxidation in gastric mucosal lesions induced by HCl, NaOH, or ischemia <i>K. Kusterer, G. Pihan, and S. Szabo</i>	G811
Absorption and lymphatic transport of exogenous and endogenous arachidonic and linoleic acid in the rat <i>A. Nilsson, B. Landin, E. Jensen, and B. Åkesson</i>	G817
Kinetic analysis of zinc uptake and serosal transfer by vascularly perfused rat intestine <i>J. E. Hoadley, A. S. Leinart, and R. J. Cousins</i>	G825

Evaluation of an infrared laser-Doppler blood flowmeter

A. P. Shepherd, G. L. Riedel, J. W. Kiel, D. J. Haumschild, and L. C. Maxwell

G832

Subject Index to Volume 15

G841

Author Index to Volume 15

G849

American Journal of Physiology: Heart and Circulatory Physiology

No. 1. JANUARY 1987

Kinetic study of $\text{Na}^+ \text{-K}^+$ pump in erythrocytes from essential hypertensive patients <i>J. Diez, P. Hannaert, and R. P. Garay</i>	H1
Hemodynamic effects of endurance training on canine left ventricle <i>P. Rämö, R. Kettunen, and L. Hirvonen</i>	H7
Ontogeny of 6-keto-PGF _{1α} synthesis in rabbit aorta and the effect of premature weaning <i>S. P. Bydlowski, R. L. Yunker, and M. T. R. Subbiah</i>	H14
Differentiation of sarcoplasmic reticulum during cardiac myogenesis <i>W. Pegg and M. Michalak</i>	H22
Deinhibition of cardiac $\text{Na}^+ \text{-K}^+$ -ATPase after exposure to exogenous phospholipase A ₂ <i>R. A. Colvin</i>	H32
Sympathoadrenal mechanisms in cardiovascular responses to naloxone after hemorrhage <i>P. C. Rutter, S. J. Potocnik, and J. Ludbrook</i>	H40
Blood and isoproterenol reduce capillary permeability in cat hindlimb <i>P. D. Watson, M. B. Wolf, and I. S. Beck-Montgomery</i>	H47
Rat cardiac myocyte adenosine transport and metabolism <i>D. A. Ford and M. J. Rovetto</i>	H54
Regional differences in pleural lymphatic albumin concentration in sheep <i>K. H. Albertine, E. L. Schultz, J. P. Wiener-Kronish, and N. C. Staub</i>	H64
Albumin and IgG in skin and skeletal muscle after plasmapheresis with saline loading <i>R. J. Mullins, M. R. Powers, and D. R. Bell</i>	H71
Effect of inflation on microvascular pressures in lungs of young rabbits <i>J. U. Raj, P. Chen, and L. Navazo</i>	H80
Nonosmotic influences on osmotic stimulation of vasopressin in humans <i>S. R. Goldsmith, D. Dodge, and A. W. Cowley</i>	H85
Pulmonary edema in dogs fails to cause reflex responses <i>W. B. Wead, S. S. Cassidy, and R. C. Reynolds</i>	H89
Effects of cord compression on fetal blood flow distribution and O ₂ delivery <i>J. Itskovitz, E. F. LaGamma, and A. M. Rudolph</i>	H100
Effects of myocardial ischemia on regional function and stiffness in conscious dogs <i>J. Amano, J. X. Thomas, Jr., M. Lavallee, I. Mirsky, D. Glover, W. T. Manders, W. C. Randall, and S. F. Vatner</i>	H110
Autoregulatory escape from vasoconstriction of intestinal circulation in developing swine <i>N. M. Buckley, M. Jarenwattananon, P. M. Gootman, and I. D. Frasier</i>	H118
Choline and acetylcholine concentration in transplanted rat heart <i>R. P. Oda, C. A. Whiteis, P. G. Schmid, and D. D. Lund</i>	H125
Inorganic phosphate inhibits sympathetic neurotransmission in canine saphenous veins <i>Y. Edouze, P. M. Vanhoutte, and J. T. Shepherd</i>	H131
Vagal cold block in area postrema-lesioned dogs: interaction of vasopressin and sympathetic nervous system <i>R. J. Applegate, E. M. Hasser, and V. S. Bishop</i>	H135
Two types of transient outward currents in adult human atrial cells <i>D. Escande, A. Coulombe, J.-F. Faivre, E. Deroubaix, and E. Corabœuf</i>	H142
Relationship between mitochondrial volume density and capillarity in hamster muscles <i>S. M. Sullivan and R. N. Pittman</i>	H149
μ -Opioid receptors in NTS elicit pressor responses via sympathetic pathways <i>A. H. Hassen and G. Feuerstein</i>	H156
Atrioventricular nodal activation during periodic premature stimulation of the atrium <i>J. Billette</i>	H163
Evaluation of diastolic function with Doppler echocardiography: the PDF formalism <i>S. J. Kovács, Jr., B. Barzilai, and J. E. Pérez</i>	H178

Quantitative fluorescence microscopy on single capillaries: α -lactalbumin transport <i>V. H. Huxley, F. E. Curry, and R. H. Adamson</i>	H188
Cerebral vascular responsiveness in deoxycorticosterone acetate-salt hypertensive rats <i>E. E. Soltis and D. F. Bohr</i>	H198
Effect of theophylline on adenosine production in the canine myocardium <i>J. E. McKenzie, R. P. Steffen, and F. J. Haddy</i>	H204
Microvascular hematocrit and red cell flux in rat cremaster muscle <i>S. D. House and H. H. Lipowsky</i>	H211
Cell-to-cell diffusion of fluorescent dyes in paired ventricular cells <i>I. Imanaga, M. Kameyama, and H. Irisawa</i>	H223

SPECIAL COMMUNICATIONS

Left ventricular epicardial deformation in isolated arrested dog heart <i>A. D. McCulloch, B. H. Smail, and P. J. Hunter</i>	H233
---	------

ANNOUNCEMENTS	H242
---------------	------

No. 2. FEBRUARY 1987

Energy production, O_2 consumption, and blood flow reserve in experimental aortic valve disease <i>Q. Su-fan, J. M. Brum, and A. A. Bove</i>	H243
O_2 free radicals: cause of ischemia-reperfusion injury to Na^+-K^+ -ATPase <i>M.-S. Kim and T. Akera</i>	H252
Low Ba-induced pacemaker current in well-polarized cat papillary muscle <i>M. Delmar and J. Jalife</i>	H258
Effects of cardiac sympathetic nerve stimulation on regional coronary blood flow <i>C. W. Haws, L. S. Green, M. J. Burgess, and J. A. Abildskov</i>	H269
Coordinated changes in contractility, energetics, and isomyosins after aortic stenosis <i>Y. Lecarpentier, L. B. Bugaisky, D. Chemla, J. J. Mercadier, K. Schwartz, R. G. Whalen, and J. L. Martin</i>	H275
Increased myocardial β -receptors and adrenergic responses in hyperthyroid pigs <i>H. K. Hammond, F. C. White, I. L. O. Buxton, P. Saltzman, L. L. Brunton, and J. C. Longhurst</i>	H283
Effect of vasopressors on organ blood flow during endotoxin shock in pigs <i>M. J. Breslow, C. F. Miller, S. D. Parker, A. T. Walman, and R. J. Traystman</i>	H291
Alterations in substance P binding in brain nuclei of spontaneously hypertensive rats <i>K. Shigematsu, M. Niwa, M. Kurihara, E. Castren, and J. M. Saavedra</i>	H301
Endothelium-derived relaxant factor inhibits effects of nitrocompounds in isolated arteries <i>U. Pohl and R. Busse</i>	H307
Calcium exchange, structure, and function in cultured adult myocardial cells <i>G. A. Langer, J. S. Frank, T. L. Rich, and F. B. Orner</i>	H314
Voltage- and time-dependent block of i_{K_1} underlying Ba^{2+} -induced ventricular automaticity <i>Y. Imoto, T. Ehara, and H. Matsuura</i>	H325
β -Adrenergic function in a congestive cardiomyopathy model <i>N. A. Staley, S. Einzig, G. R. Noren, J. E. Surdy, and J. Elsperger</i>	H334
Endothelial extraction of tracer water varies with extravascular water in dog lungs <i>F. P. Chinard and W. O. Cua</i>	H340
Prolonged support of working rabbit hearts using Fluosol-43 or erythrocyte media <i>L. D. Segel, J. L. Ensunsa, and W. A. Boyle, III</i>	H349
Interaction of brief sympathetic stimuli and heart period on atrial contractile force <i>P. Martin and S. Ishikawa</i>	H360
Purine efflux after cardiac ischemia: relevance to allopurinol cardioprotection <i>C. M. Grum, L. H. Ketai, C. L. Myers, and M. Shlafer</i>	H368

Cardiac depressant and circulatory effects of prostaglandin D ₂ in developing lambs <i>W. H. Drummond and R. L. Carter</i>	H374
Maps of optical action potentials and NADH fluorescence in intact working hearts <i>G. Salama, R. Lombardi, and J. Elson</i>	H384
Effect of superfusate albumin on single capillary hydraulic conductivity <i>V. H. Huxley and F. E. Curry</i>	H395
Exacerbation of central baroreflex impairment in Dahl rats by high-salt diets <i>E. Miyajima and R. D. Buñag</i>	H402
Myocardial adrenergic responsiveness after lethal and nonlethal doses of endotoxin <i>R. E. Shepherd, C. H. Lang, and K. H. McDonough</i>	H410
Time-dependent coronary blood flow distribution in left ventricular wall <i>R. Beyar and S. Sideman</i>	H417
Endothelial-dependent relaxation of human pulmonary arteries <i>B. Greenberg, K. Rhoden, and P. J. Barnes</i>	H434
Regional sciatic nerve blood flow response to limb movement <i>H. Sugimoto, W. W. Monaflo, and S. Shimazaki</i>	H439
Effects of sympathectomy on heart size and function in aortic-constricted rats <i>F. M. Siri and J. J. McNamara</i>	H442
Myocardial temperature variation: effect on regional function and coronary flow in dogs <i>M. N. D'Ambra, P. Magrassi, E. Lowenstein, S. Kyo, W. W. Austen, M. J. Buckley, and P. J. LaRaia</i>	H448

ANNOUNCEMENTS

H456

No. 3. MARCH 1987

CENTENNIAL MESSAGE

Wither or whither? <i>A. P. Fishman</i>	H457
The American Physiological Society in its centenary year <i>H. E. Morgan</i>	H459

Time course of systolic loading is an important determinant of ventricular relaxation <i>F. J. Zatko, P. Martin, and R. C. Bahler</i>	H461
Control of cardiac function and venous return in thyrotoxic calves <i>R. Gay, R. W. Lee, C. Appleton, M. Olajos, G. V. Martin, E. Morkin, and S. Goldman</i>	H467
Electrical stimulation in perifornical lateral hypothalamus decreases coronary blood flow in cats <i>A. C. Bonham, D. D. Guterman, J. M. Arthur, M. L. Marcus, G. F. Gebhart, and M. J. Brody</i>	H474
Red cell perfusion in skeletal muscle at rest and after mild and severe contractions <i>K. Tyml</i>	H485
Microvessel hematocrit: measurement and implications for capillary oxygen transport <i>C. Desjardins and B. R. Duling</i>	H494
Cerebral circulation, metabolism, and blood-brain barrier of rats in hypocapnic hypoxia <i>T. Beck and J. Kriegstein</i>	H504
Effects of thyroid hormone on β -adrenergic responsiveness of aging cardiovascular systems <i>G. Tsujimoto, K. Hashimoto, and B. B. Hoffman</i>	H513
Neural control of adrenal medullary and cortical blood flow during hemorrhage <i>M. J. Breslow, D. A. Jordan, S. T. Thellman, and R. J. Traystman</i>	H521
Temperature distribution cannot predict local cardiac metabolism <i>P. Duijst, G. Elzinga, and N. Westerhof</i>	H529

Effects of left circumflex coronary flow transducer implantation on posterior wall innervation <i>D. R. Knight, J. X. Thomas, Jr., W. C. Randall, and S. F. Vatner</i>	H536
Alterations in cardiac sarcolemmal Ca^{2+} pump activity during diabetes mellitus <i>C. E. Heyliger, A. Prakash, and J. H. McNeill</i>	H540
Quantification of O_2 consumption and arterial pressure as independent determinants of coronary flow <i>I. Vergroesen, M. I. M. Noble, P. A. Wieringa, and J. A. E. Spaan</i>	H545
Effect of dietary fish oil on myocardial phospholipids and myocardial ischemic damage <i>C. E. Hock, M. A. Holahan, and D. K. Reibel</i>	H554
Mechanisms for altered carnitine content in hypertrophied rat hearts <i>D. K. Reibel, B. O'Rourke, and K. A. Foster</i>	H561
Evidence for a pathogenetic role of xanthine oxidase in the "stunned" myocardium <i>M. L. Charlat, P. G. O'Neill, J. M. Egan, D. R. Abernethy, L. H. Michael, M. L. Myers, R. Roberts, and R. Bolli</i>	H566
Atrioventricular nodal accommodation: rate- and time-dependent effects <i>J. M. Loeb, J. M. DeTarnowsky, C. C. Whitson, and M. R. Warner</i>	H578
Characterization of pulmonary arterial input impedance with lumped parameter models <i>B. J. B. Grant and L. J. Paradowski</i>	H585
Cholinergic vasodilator mechanism in human fingers <i>J. D. Coffman and R. A. Cohen</i>	H594
Vascular effects of infused adenosine are not mediated by prostacyclin release in humans <i>J. Nowak, M. Wennmalm, A. Edlund, Å. Wennmalm, and G. A. Fitzgerald</i>	H598
Ibuprofen prevents thrombin-induced lung vascular injury: mechanism of effect <i>M. B. Perlman, A. Johnson, and A. B. Malik</i>	H605
Fibrinogen receptors in platelet adhesion to surfaces of extracorporeal circuit <i>P. Gluszko, B. Rucinski, J. Musial, R. K. Wenger, A. H. Schmaier, R. W. Colman, L. H. Edmunds, Jr., and S. Niewiarowski</i>	H615
The mitochondrial adenosine 5'-triphosphatase in slow and fast heart rate hearts <i>W. Rouslin</i>	H622
Hemodynamic effects of vasopressin compared with angiotensin II in conscious rats <i>J. W. Osborn, Jr., M. M. Skelton, and A. W. Cowley, Jr.</i>	H628
Source of intrinsic innervation of canine ventricles: a functional study <i>T. M. Blomquist, D. V. Priola, and A. M. Romero</i>	H638
Excitability and oscillatory afterpotentials in isolated sheep cardiac Purkinje fibers <i>R. M. Terek and C. T. January</i>	H645
Atrioventricular interactions: a theoretical simulation study <i>R. Beyar and S. Sideman</i>	H653

RAPID COMMUNICATIONS

Component of whole cell Ca current due to electrogenic Na - Ca -exchange in cardiac myocytes <i>J. R. Hume</i>	H666
Endothelium-dependent contraction to stretch in canine basilar arteries <i>Z. S. Katusic, J. T. Shepherd, and P. M. Vanhoutte</i>	H671

No. 4. APRIL 1987

Effect of AVP on pressor responses to peripheral sympathetic stimulation in the rat <i>J. W. Osborn, Jr., J. F. Liard, and A. W. Cowley, Jr.</i>	H675
Myocardial blood flow and $\dot{V}O_2$ in conscious lambs with an aortopulmonary shunt <i>G. P. Toorop, R. Hardjowijono, M. Dalinghaus, A. M. Gerding, J. H. Koers, W. G. Zijlstra, and J. R. G. Kuipers</i>	H681
Prostanoids and pial arteriolar diameter in hypotensive newborn pigs <i>C. W. Leffler and D. W. Busija</i>	H687
Atrial natriuretic factor secretion in dogs with experimental high-output heart failure <i>D. Villarreal, R. H. Freeman, J. O. Davis, K. M. Verburg, and R. C. Vari</i>	H692

Voltage-dependent effects of isoproterenol on cytosolic Ca concentration in rat heart <i>S.-S. Sheu, V. K. Sharma, and M. Korth</i>	H697
Rat venule mechanical characteristics during venous pressure elevation <i>D. J. Lang and B. L. Johns</i>	H704
Venule distension properties in Wistar, Wistar-Kyoto, and spontaneously hypertensive rats <i>D. J. Lang and B. L. Johns</i>	H714
Hydrogen peroxide elicits pulmonary arterial relaxation and guanylate cyclase activation <i>T. M. Burke and M. S. Wolin</i>	H721
Opioid modulation of baroreceptor reflex sensitivity in dogs <i>J. E. Szilagyi</i>	H733
Segmental vascular responses to acute hypertension in cerebrum and brain stem <i>F. M. Faraci, W. G. Mayhan, and D. D. Heistad</i>	H738
Thromboxane does not mediate pulmonary vascular response to monocrotaline pyrrole <i>P. E. Ganey and R. A. Roth</i>	H743
Effects of coronary occlusion on arterial baroreflex control of heart rate and vascular resistance <i>B. Trimarco, B. Ricciardelli, A. Cuocolo, M. Volpe, N. De Luca, A. F. Mele, and M. Condorelli</i>	H749
Intracellular $[Ca^{2+}]$ related to rate of force development in twitch contraction of heart <i>D. T. Yue</i>	H760
Developmental changes in the response of cardiac Purkinje fibers to SC-72-14 <i>Y. Morikawa, M. R. Rosen, H. Meiri, and R. B. Robinson</i>	H771
Fluorodeoxyglucose rate constants, lumped constant, and glucose metabolic rate in rabbit heart <i>J. Krivokapich, S.-C. Huang, C. E. Selin, and M. E. Phelps</i>	H777
Effect of altered thyroid status on <i>in vitro</i> cardiac performance in rats <i>K. H. McDonough, V. Chen, and J. J. Spitzer</i>	H788
Sympathetic function in spontaneously hypertensive rats after chronic administration of captopril <i>K. H. Berecek, K. A. Kirk, S. Nagahama, and S. Oparil</i>	H796
Positive inotropic effects of acetylcholine and BAY K 8644 in embryonic chick ventricle <i>Y. Tsuji, T. Tajima, J. Yuen, and A. J. Pappano</i>	H807
Influence of nisoldipine on vascular resistance and vasoconstrictor responses in cats <i>W. M. Armstead, H. L. Lippton, A. L. Hyman, and P. J. Kadowitz</i>	H816
Effect of aortic constriction on the functional border zone <i>K. P. Gallagher, X.-H. Ning, R. A. Gerren, D. H. Drake, and W. R. Dunham</i>	H826
Hepatic arterial pressure-flow autoregulation is adenosine mediated <i>W. R. Ezzat and W. W. Lautt</i>	H836
Effects of pregnancy on cardiac function and myosin enzymology in the rat <i>P. M. Buttrick, T. F. Schaible, A. Malhotra, S. Mattioli, and J. Scheuer</i>	H846

SPECIAL COMMUNICATIONS

Microsphere reference flow samples during systemic flow adjustment <i>G. A. Geffin, D. D. O'Keefe, A. G. Denenberg, and W. M. Daggett</i>	H851
--	------

MODELING METHODOLOGY FORUM

Statistical and graphical evaluation of erythrocyte volume distributions <i>C. E. McLaren, G. M. Brittenham, and V. Hasselblad</i>	H857
---	------

RAPID COMMUNICATIONS

Calcium currents of cardiovascular neurons isolated from adult guinea pigs <i>D. L. Kunze</i>	H867
--	------

ANNOUNCEMENTS

H872

Mechanism of α -adrenergic excitation in bovine lymphatic smooth muscle <i>N. G. McHale, J. M. Allen, and H. L. A. Iggo</i>	H873
Cardiac sympathetic nerve activity and catecholamine kinetics in cat hearts <i>T. Honda, I. Ninomiya, and T. Azumi</i>	H879
Formation and release of purine catabolites during hypoperfusion, anoxia, and ischemia <i>H. Van Belle, F. Goossens, and J. Wynants</i>	H886
Atrial natriuretic peptide increases resistance to venous return in rats <i>Y. W. Chien, E. D. Frohlich, and N. C. Trippodo</i>	H894
Hemodynamic alterations in chronically conscious unrestrained diabetic rats <i>L. F. Carbonell, M. G. Salom, J. Garcia-Estañ, F. J. Salazar, M. Ubeda, and T. Quesada</i>	H900
Minimum intracellular P_{O_2} for maximum cytochrome turnover in red muscle in situ <i>T. E. J. Gayeski, R. J. Connell, and C. R. Honig</i>	H906
Cardiorespiratory response to cyanide of arterial chemoreceptors in fetal lambs <i>J. Itskovitz and A. M. Rudolph</i>	H916
Response to brief coronary stenosis in conscious dogs after ventricular sympathectomy <i>C. E. Jones, I. Y. S. Liang, H. J. Mass, and P. A. Gwirtz</i>	H923
Effects of regional ischemia and ventricular pacing on LV dP/dt _{max} -end-diastolic volume relation <i>W. C. Little, R. C. Park, and G. L. Freeman</i>	H933
Influence of norepinephrine and angiotensin II on vasomotion of renal blood supply in humans <i>N. K. Hollenberg, M. Meyerovitz, D. P. Harrington, and T. Sandor</i>	H941
Active force during hypoxia of hypertrophied rabbit right ventricular trabeculae <i>M. A. Capeless and B. B. Hamrell</i>	H945
Hepatic blood flow: accuracy of estimation from bolus injections of indocyanine green <i>F. J. Burczynski, K. L. Pushka, D. S. Sitar, and C. V. Greenway</i>	H953
Quantification of effect of pericardium on LV diastolic PV relation in dogs <i>M. Jünemann, O. A. Smiseth, H. Refsum, R. Sievers, M. J. Lipton, E. Carlsson, and J. V. Tyberg</i>	H963
Left ventricular mechanical adaptation to chronic aortic regurgitation in intact dogs <i>F. Florenzano and S. A. Glantz</i>	H969
Persistence of mitochondrial competence during myocardial autolysis <i>W. Rouslin</i>	H985
Influence of ischemic zone size on nonischemic area function in the canine left ventricle <i>W. Y. W. Lew</i>	H990
Transient vs. steady end-systolic pressure-volume relation in dog left ventricle <i>Y. Igarashi, Y. Goto, O. Yamada, T. Ishii, and H. Suga</i>	H998
Paradoxical positive inotropic effect of K^+ in the rat heart <i>Y.-C. Ng, J. R. Hume, and T. Akera</i>	H1005
Two classes of ouabain binding sites in ferret heart and two forms of Na^+-K^+ -ATPase <i>Y.-C. Ng and T. Akera</i>	H1016
Effects of ventricular pacing on finite deformation in canine left ventricles <i>L. K. Waldman and J. W. Covell</i>	H1023

SPECIAL COMMUNICATIONS

Measurement of hemoglobin oxygen saturation in capillaries <i>M. L. Ellsworth, R. N. Pittman, and C. G. Ellis</i>	H1031
Free radical-mediated endothelial damage in blood vessels after electrical stimulation <i>F. S. Lamb, C. M. King, K. Harrell, W. Burkel, and R. C. Webb</i>	H1041

ANNOUNCEMENTS

H1047

Effects of dihydropyridines on stress, myosin phosphorylation, and V_0 in smooth muscle <i>S. Moreland and R. S. Moreland</i>	H1049
Contractile responses to sympathetic activation after coronary instrumentation <i>G. Heusch, B. D. Guth, D. M. Roth, R. Seitelberger, and J. Ross, Jr.</i>	H1059
Myocardial amino acid transport by canine sarcolemma vesicles <i>L. H. Young, B. L. Zaret, and E. J. Barrett</i>	H1070
Reflex regulation of atrioventricular conduction <i>M. R. Warner and J. M. Loeb</i>	H1077
Maximum myocardial oxygen transport during anemia and polycythemia in dogs <i>R. W. Baer, G. J. Vlahakes, P. N. Uhlig, and J. I. E. Hoffman</i>	H1086
Tolerance to hypoxia of myocardium from adult and aged spontaneously hypertensive rats <i>W. W. Brooks, J. S. Ingwall, C. H. Conrad, C. Holubarsch, and O. H. L. Bing</i>	H1096
Vasomotor properties of immature canine coronary collateral circulation <i>P. V. Hautamaa, X.-Z. Dai, D. C. Homans, J. F. Robb, and R. J. Baché</i>	H1105
Effect of high calcium intake on pressor responsiveness in hypertensive rats <i>N. Stern, M. Golub, M. Nyby, M. Berger, P. Eggena, D. B. N. Lee, M. L. Tuck, and A. S. Brickman</i>	H1112
Cardiac and arterial baroreceptor influences in release of vasopressin and renin during hemorrhage <i>A. W. Quail, R. L. Woods, and P. I. Korner</i>	H1120
Tissue-fluid pressure measured in perfused rabbit hearts during osmotic transients <i>S. E. Anderson and J. A. Johnson</i>	H1127
Nuclear magnetic resonance studies of intracellular ions in perfused frog heart <i>D. Burstein and E. T. Fosse</i>	H1138
Renal pressor reflex: involvement of sympathetic vasoconstrictor mechanisms <i>J. E. Faber and D. R. Gettes</i>	H1147
Oxygen metabolites and vasodilator mechanisms in rat cremasteric arterioles <i>M. S. Wolin, J. M. Rodenburg, E. J. Messina, and G. Kaley</i>	H1159
Cardiac adjustments to left-side inotropic stimulation of <i>in situ</i> pig hearts <i>Ø. A. Vengen, K. Lande, Ø. Ellingsen, and A. Ilebekk</i>	H1164
Transfer of nonelectrolytes from blood into peripheral nerve endoneurium <i>E. Rechthand, Q. R. Smith, and S. I. Rapoport</i>	H1175
Role of adrenal catecholamines in cerebrovasodilation evoked from brain stem <i>C. Iadecola, P. M. Lacombe, M. D. Underwood, T. Ishitsuka, and D. J. Reis</i>	H1183
Perivascular and tissue PO_2 in contracting rat spinotrapezius muscle <i>J. M. Lash and H. G. Bohlen</i>	H1192
Hemorrhagic shock impairs myocardial cell volume regulation and membrane integrity in dogs <i>J. W. Horton</i>	H1203
Myocyte and endothelial injury with ischemia reperfusion in isolated rat hearts <i>K. P. Sunnergren and M. J. Rovetto</i>	H1211
Contractility-dependent curvilinearity of end-systolic pressure-volume relations <i>D. Burkhoff, S. Sugiura, D. T. Yue, and K. Sagawa</i>	H1218
Whole body structural vascular adaptation to prolonged hypoxia in chick embryos <i>T. H. Adair, A. C. Guyton, J.-P. Montani, H. L. Lindsay, and K. A. Stanek</i>	H1228
Inducers of adenylate cyclase reverse the effect of leukotriene D_4 in isolated working guinea pig heart <i>O. G. Björnsson, K. Kobayashi, and J. R. Williamson</i>	H1235
Postpropranolol vasodilation in adrenalectomized glucocorticoid hypertensive rats <i>D. J. DiPette, J. F. Burris, A. Rogers, B. Waeber, and H. R. Brunner</i>	H1243
Effect of blood pressure on medial medulla-induced muscle atonia <i>Y. Y. Lai, J. M. Siegel, and W. J. Wilson</i>	H1249
Prospective prediction of O_2 consumption from pressure-volume area in dog hearts <i>H. Suga, Y. Yasumura, T. Nozawa, S. Futaki, Y. Igarashi, and Y. Goto</i>	H1258

SPECIAL COMMUNICATIONS

Beat-to-beat estimation of peripheral resistance and arterial compliance during pressure transients

G. P. Toorop, N. Westerhof, and G. Elzinga

H1275

LETTERS TO THE EDITOR

Cardiac relaxation: load sensitivity and sarcoplasmic reticulum

Y. Lecarpentier, D. Chemla, M. Clergue, and J.-L. Martin; R. L. Rodgers, S. Black, S. Katz, and J. H. McNeill

H1284

Subject Index to Volume 21

H1287

Author Index to Volume 21

H1297

CORRIGENDA

Volume 241, September 1981

Volume 10, September 1981

Pages H421-H430: S. Greenberg, K. Gaines, and D. Sweatt. "Evidence for circulating factors as a cause of venous hypertrophy in spontaneously hypertensive rats." *Page H423: Equation 3* was incorrect due to a typographical error in which the appropriate parentheses were omitted. The correct equation is $A = W/(l \times d)$ or $A = (W/l)/d$. This (correct) equation was used to calculate the data, which are therefore correct.

Volume 251, December 1986

Volume 20, December 1986

Page H1365: J. W. Osborn, Jr., B. J. Barber, E. W. Quillen, Jr., R. J. Abram, and A. W. Cowley, Jr. "Chronic measurement of cardiac output in unanesthetized rats using miniatu-
ture thermocouples." *Page H1367:* Substitute correct Fig. 2.

**THERMOCOUPLE
CIRCUIT SCHEMATIC**

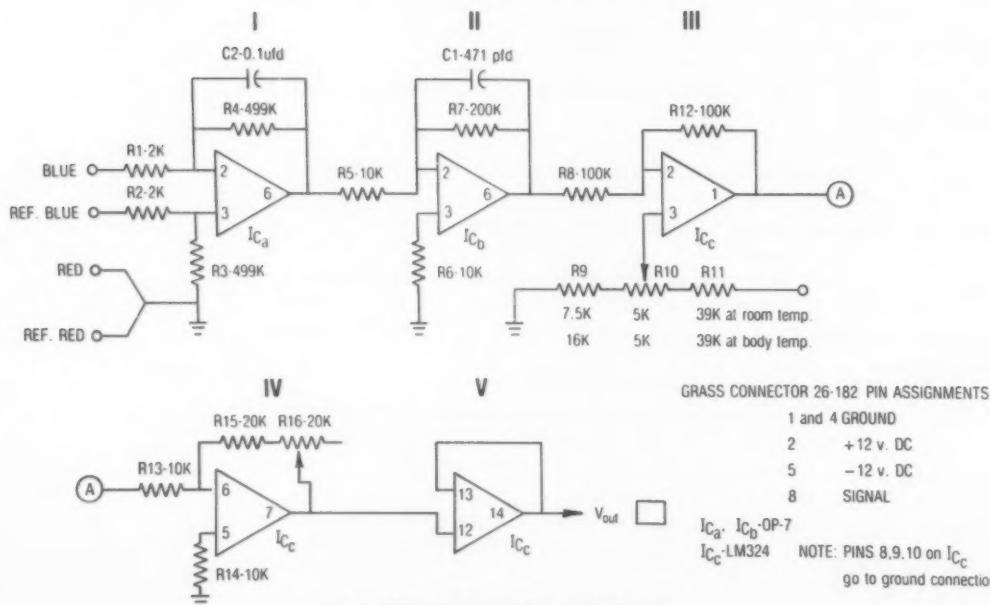


FIG. 2. Differential amplifier circuit diagram.

American Journal of Physiology: Regulatory, Integrative and Comparative Physiology

No. 1. JANUARY 1987

Natriuresis induced by localized perfusion within the third cerebral ventricle of sheep <i>P. S. Cox, D. A. Denton, D. R. Mouw, and E. Tarjan</i>	R1
Peripheral and brain tissue catecholamine content in intact and anti-NGF-treated fetal sheep <i>J. A. Schuijers, D. W. Walker, C. A. Browne, and G. D. Thorburn</i>	R7
Localization of efferent function in the dorsal motor nucleus of the vagus <i>W. B. Laughton and T. L. Powley</i>	R13
Pressoreceptor modulation of renal but not splenic sympathetic reflexes <i>J. C. Tobey and L. C. Weaver</i>	R26
CRF initiates biological actions within the brain that are observed in response to stress <i>H. J. Lenz, A. Raedler, H. Greten, and M. R. Brown</i>	R34
Na ⁺ -H ⁺ exchange and Na ⁺ -dependent transport systems in streptozotocin diabetic rat kidneys <i>S. El-Seifi, J. M. Freiberg, J. Kinsella, L. Cheng, and B. Sacktor</i>	R40
Stress-induced blood pressure responses in SHR: effect of dietary calcium <i>D. C. Hatton, P. E. Huie, M. S. Muntzel, J. A. Metz, and D. A. McCarron</i>	R48
Phase resetting and dysrhythmic responses of the respiratory oscillator <i>D. Paydarfar and F. L. Eldridge</i>	R55
Effect on parathyroid hormone on transport by toad and turtle bladder <i>S. Sabatini and N. A. Kurtzman</i>	R63
Autoregulation of renal blood flow and glomerular filtration rate in the pregnant rabbit <i>L. L. Woods, H. L. Mizelle, and J. E. Hall</i>	R69
Central angiotensin II and PGE ₂ act independently to increase blood pressure in conscious sheep <i>B. A. Breuhaus and J. E. Chimoskey</i>	R73
Valine entry into rat brain after diet-induced changes in plasma amino acids <i>J. K. Tews, J. Greenwood, O. E. Pratt, and A. E. Harper</i>	R78
Sulfate transport by chick renal tubule brush-border and basolateral membranes <i>J. L. Renfro, N. B. Clark, R. E. Metts, and M. A. Lynch</i>	R85
Fetal responses to altered maternal oxygenation in rhesus monkey <i>B. T. Jackson, G. J. Piasecki, and M. J. Novy</i>	R94
Abnormal blood pressure recovery during ganglion blockade in diabetic rats <i>R. A. Hebdon, T. Bennett, and S. M. Gardiner</i>	R102
Factors from paraventricular nucleus mediating adrenocorticotropin release in cats <i>D. E. Carlson and D. S. Gann</i>	R109
Vasopressin responses to asphyxia and hemorrhage in newborn pigs <i>C. W. Leffler, D. W. Busija, D. P. Brooks, J. T. Crofton, L. Share, D. G. Beasley, and A. M. Fletcher</i>	R122
Cardiovascular effect of V ₁ vasopressinergic blockade during acute hypercapnia in conscious rats <i>B. R. Walker</i>	R127
Potassium-induced relaxation in vascular smooth muscle of ground squirrels and rats <i>C. T. Harker and R. C. Webb</i>	R134
Puberty in female rats: relative effect of exercise and food restriction <i>F. H. Bronson</i>	R140
Augmented pressor response to vasopressin in awake dogs after cardiac denervation <i>B. C. Wang, G. F. Ginter, and K. L. Goetz</i>	R145
Organic cation secretion by <i>Cancer borealis</i> urinary bladder <i>D. S. Miller and C. W. Holliday</i>	R153
Glucagon stimulation of brown adipose tissue growth and thermogenesis <i>C. J. Billington, T. J. Bartness, J. Briggs, A. S. Levine, and J. E. Morley</i>	R160

Morphology and development of an apocrine sweat gland in human axillae <i>K. Sato, R. Leidal, and F. Sato</i>	R166
Sweat secretion by human axillary apocrine sweat gland in vitro <i>K. Sato and F. Sato</i>	R181
Increased synthesis and release of atrial peptide during DOCA escape in conscious dogs <i>C. H. Metzler, D. G. Gardner, L. C. Keil, J. D. Baxter, and D. J. Ramsay</i>	R188

No. 2. FEBRUARY 1987

INVITED OPINION

Interaction between myocardial depressant factor and vasoactive mediators with ischemia and shock <i>A. M. Lefer</i>	R193
---	------

GRAVITATIONAL PHYSIOLOGY

Introduction <i>X. J. Musacchia</i>	R207
Changes in pituitary growth hormone cells prepared from rats flown on Spacelab 3 <i>R. Grindeland, W. C. Hymer, M. Farrington, T. Fast, C. Hayes, K. Motter, L. Patil, and M. Vasques</i>	R209
Hematological measurements in rats flown on Spacelab shuttle, SL-3 <i>R. D. Lange, R. B. Andrews, L. A. Gibson, C. C. Congdon, P. Wright, C. D. R. Dunn, and J. B. Jones</i>	R216
Hepatic function in rats after spaceflight: effects on lipids, glycogen, and enzymes <i>A. H. Merrill, Jr., E. Wang, D. P. Jones, and J. L. Hargrove</i>	R222
Cardiac muscle ultrastructure and cyclic AMP reactions to altered gravity conditions <i>M. I. Mednieks, A. S. Fine, J. Oyama, and D. E. Philpott</i>	R227
Salivary gland ultrastructure and cyclic AMP-dependent reactions in Spacelab 3 rats <i>M. I. Mednieks and A. R. Hand</i>	R233
Fragility and composition of growing rat bone after one week in spaceflight <i>P. Patterson-Buckendahl, S. B. Arnaud, G. L. Mechanic, R. B. Martin, R. E. Grindeland, and C. E. Cann</i>	R240
Nuclear morphometric analysis of osteoblast precursor cells in periodontal ligament, SL-3 rats <i>W. E. Roberts, P. J. Fielder, L. M. L. Rosenoer, A. C. Maese, M. R. Gonsalves, and E. R. Morey</i>	R247
Histomorphometric analysis of rat skeleton following spaceflight <i>T. J. Wronski, E. R. Morey-Holton, S. B. Doty, A. C. Maese, and C. C. Walsh</i>	R252

Phase setting of circadian locomotor rhythm of infant rats <i>K.-I. Honma, S. Honma, T. Shirakawa, and T. Hiroshige</i>	R256
Restricted daily feeding during nursing period resets circadian locomotor rhythm of infant rats <i>S. Honma, K.-I. Honma, and T. Hiroshige</i>	R262
Role of adrenergic-dependent H ⁺ release from red cells in acidosis induced by hypoxia in trout <i>B. Fievet, R. Motais, and S. Thomas</i>	R269
Time course of radiolabeled 2-deoxy-D-glucose 6-phosphate turnover in cerebral cortex of goats <i>D. A. Pelliigrino, D. J. Miletich, and R. F. Albrecht</i>	R276
Sex-related differences in fever development of rats <i>N. Murakami and T. Ono</i>	R284
Suppressed serum prolactin in sinoaortic-denervated rats <i>N. Alexander, S. Melmed, and M. Morris</i>	R290
Sinoaortic denervation in the nonhuman primate <i>V. S. Bishop, R. E. Shade, J. R. Haywood, and C. Hamm</i>	R294

Age-related changes in circannual rhythms of lymphocyte blastogenic responses in mice <i>M. A. Brock</i>	R299
Responses to converting-enzyme inhibition and hemorrhage in newborn lambs and adult sheep <i>J. C. Rose, S. M. Block, K. Flowe, M. Morris, S. South, D. K. Sundberg, and C. Zimmerman</i>	R306
Cardiovascular and endocrine response to hemorrhage after α_1 -blockade in lambs and ewes <i>S. M. Block, J. C. Rose, J. M. Ernest, K. Flowe, S. South, and C. Zimmerman</i>	R314
Effect of permanent access to operant heating on energy balance of growing pigs <i>A. H. Swiergiel</i>	R320
Effect of sympathetic sensitization of baroreceptors on renal nerve activity <i>J. L. Seagard, F. A. Hopp, and J. P. Kampine</i>	R328
Cardiorenal-endocrine dynamics during and following volume expansion <i>R. S. Zimmerman, B. S. Edwards, T. R. Schwab, D. M. Heublein, and J. C. Burnett, Jr.</i>	R336
Does myoglobin contribute significantly to diffusion of oxygen in red skeletal muscle? <i>D. G. Covell and J. A. Jacquez</i>	R341
Acid-base balance in ducks (<i>Anas platyrhynchos</i>) during involuntary submergence <i>M. Shimizu and D. R. Jones</i>	R348
Proglumide, a cholecystokinin antagonist, increases gastric emptying in rats <i>G. Shillabeer and J. S. Davison</i>	R353
Contraction of major artery segments of rat by fish neuropeptide urotensin II <i>H. Itoh, Y. Itoh, J. Rivier, and K. Lederis</i>	R361
Mechanosensitive afferents of femoral-saphenous vein <i>P. W. Davenport and F. J. Thompson</i>	R367
Effects of temperature on contractile properties of skinned muscle fibers from three toad species <i>I. A. Johnston and T. T. Gleeson</i>	R371
A possible physiological role of milk epidermal growth factor in neonatal eyelid opening <i>O. Tsutsumi, A. Tsutsumi, and T. Oka</i>	R376
Amniotic fluid volume regulation: basal volumes and responses to fluid infusion or withdrawal in sheep <i>S. Tomoda, R. A. Brace, and L. D. Longo</i>	R380
Comparison of effects of ATP-MgCl ₂ and adenosine-MgCl ₂ on renal function following ischemia <i>B. E. Sumpio, M. J. Hull, A. E. Baue, and I. H. Chaudry</i>	R388
Pulmonary depressor reflex elicited by capsaicin in conscious intact and lung-denervated dogs <i>P. S. Clifford, J. T. Litzow, and R. L. Coon</i>	R394
Level of alimentation and line of breeding on oxygen uptake by ovine jejunal mucosa <i>R. E. Rompala, D. E. Johnson, W. V. Rumpf, H. W. Phetteplace, and C. F. Parker</i>	R398
Diet, lighting, and food intake affect norepinephrine turnover in dietary obesity <i>T. Yoshida, J. S. Fisler, M. Fukushima, G. A. Bray, and R. A. Schemmel</i>	R402
Separation of captopril effects on salt and water intake by subfornical organ lesions <i>R. L. Thunhorst, D. A. Fitts, and J. B. Simpson</i>	R409

SPECIAL COMMUNICATIONS

In vivo metabolic activity of hamster suprachiasmatic nuclei: use of anesthesia <i>W. J. Schwartz</i>	R419
--	------

RAPID COMMUNICATIONS

Atrial natriuretic peptide blocks renin response to renal hypotension <i>D. A. Scheuer, T. N. Thrasher, E. W. Quillen, Jr., C. H. Metzler, and D. J. Ramsay</i>	R423
--	------

LETTERS TO THE EDITOR

No. 3. MARCH 1987

CENTENNIAL MESSAGE

Wither or whither?

A. P. Fishman

The American Physiological Society in its centenary year

H. E. Morgan

Seasonal, sexual, and individual variation in endurance and activity metabolism in lizards

T. Garland, Jr., and P. L. Else

Effects of endurance training and captivity on activity metabolism of lizards

T. Garland, Jr., P. L. Else, A. J. Hulbert, and P. Tap

Distribution of antithrombin III in rabbits: role of host and protein

E. Regoeczi

Sweating responses and body temperatures during nocturnal sleep in humans

J. C. Sagot, C. Amoros, V. Candas, and J. P. Libert

Resistance to diet-induced obesity: food intake, pancreatic sympathetic tone, and insulin

B. E. Levin, J. Triscari, S. Hogan, and A. C. Sullivan

Ammonium ion substitutes for K⁺ in ATP-dependent Na⁺ transport by basolateral membrane vesicles

D. W. Towle and T. Hølleland

Effects of dopamine in renal vascular bed of fetal, newborn, and adult sheep

K. T. Nakamura, R. A. Felder, P. A. Jose, and J. E. Robillard

Control of atrial natriuretic factor release from a rat heart-lung preparation

J. R. Dietz

Atrial stretch-induced diuresis in Brattleboro rats

S. Kaufman and J. Stelfox

Prevention of genetic fa/fa obesity with an ephedrine-methylxanthines thermogenic mixture

A. G. Dulloo and D. S. Miller

Inhibition of renal nerve sympathetic activity by spinal stimulation in rat

L. P. Schramm and R. H. Livingstone

Angiotensin II does not alter ACTH responses to hypoglycemia in conscious dogs

M. Keller-Wood, B. Kimura, and M. I. Phillips

Dynamics of insulin resistance in denervated slow and fast muscles in vivo

J. Turinsky

Effects of hypercapnia on variability of normal respiratory behavior in awake cats

P. C. Szlyk and D. B. Jennings

Prolonged alterations in plasma cortisol circadian rhythms following trauma in baboons

T. K. McIntosh

Hypoxic moderation of systemic hypertension in the spontaneously hypertensive rat

W. N. Henley and A. Tucker

Attenuated sodium appetite in response to sodium deficiency in Fischer-344 rats

E. E. Midkiff, D. A. Fitts, J. B. Simpson, and I. L. Bernstein

Intestinal glucose transport and salinity adaptation in a euryhaline teleost

S. J. Reshkin and G. A. Ahearn

Basolateral glucose transport by intestine of teleost, *Oreochromis mossambicus*

S. J. Reshkin and G. A. Ahearn

Glucose turnover in 48-hour-fasted running rats <i>B. Sonne, K. J. Mikines, and H. Galbo</i>	R587
Acute central effects of L-glutamate in pentobarbital-anesthetized dogs <i>J. E. Chelly, M.-F. Doursout, and J. P. Buckley</i>	R594
Effect of neuropeptide Y on ingestive behaviors in the rat <i>J. E. Morley, A. S. Levine, B. A. Gosnell, J. Kneip, and M. Grace</i>	R599
Cardioinhibitory effect of atrial peptide in conscious rats <i>D. E. Allen and M. Gellai</i>	R610
Unaltered regulatory thermogenic response to dietary signals in exercise-trained rats <i>J. Arnold and D. Richard</i>	R617

RAPID COMMUNICATIONS

Does a decrease in cortisol negative feedback efficacy precede ovine parturition? <i>C. E. Wood</i>	R624
Aortic baroreceptor reflexes are mediated by NMDA receptors in caudal ventrolateral medulla <i>F. J. Gordon</i>	R628

ANNOUNCEMENTS	R634
---------------	------

No. 4. APRIL 1987

INVITED OPINION

Glucocorticoid inhibition of neurohypophyseal vasopressin secretion <i>H. Raff</i>	R635
---	------

Forebrain contribution to sympathetic nerve discharge in anesthetized cats <i>Z.-S. Huang, G. L. Gebber, S. M. Barman, and K. J. Varner</i>	R645
Hormonal regulation of hepatic glycogenolysis in the carp, <i>Cyprinus carpio</i> <i>P. A. Janssens and P. Lowrey</i>	R653
Influence of spinal and hypothalamic warming on metabolism and sleep in pigeons <i>R. Graf, H. C. Heller, S. Sakaguchi, and S. Krishna</i>	R661
Does vasopressin-induced vasoconstriction persist during prolonged infusion in dogs? <i>J.-F. Liard</i>	R668
Effect of endotoxic shock on skeletal muscle intracellular electrolytes and amino acid transport <i>M. D. Karlstad and M. M. Sayeed</i>	R674
Renal brush-border $\text{Na}^+ \text{-H}^+$ exchange activity in the aging rat <i>J. L. Ki :sell and B. Sacktor</i>	R681
High- NaCl diet reduces cardiac vagal afferent nerve response to volume expansion <i>G. F. DiBona and L. L. Sawin</i>	R687
Guinea pig lung development: antioxidant enzymes and premature survival in high O_2 <i>I. R. S. Sosenko and L. Frank</i>	R693
Arterial baroreceptor and vagal inputs to sympathoexcitatory neurons in rat medulla <i>M.-K. Sun and P. G. Guyenet</i>	R699
Normalization of hemodynamic parameters: application to vascular resistance and impedance <i>Z. Liu and F. C. P. Yin</i>	R710
Quantitation of phosphorus excretion in sheep by compartmental analysis <i>K. M. Schneider, R. C. Boston, and D. D. Leaver</i>	R720
Continuous resetting of the human carotid baroreceptor-cardiac reflex <i>G. A. Kasting, D. L. Eckberg, J. M. Fritsch, and C. L. Birkett</i>	R732
Enhancement of cold-stimulated thermogenesis in the corpulent rat (LA/N cp) by aminophylline <i>T. F. Lee, L. C. H. Wang, and J. C. Russell</i>	R737
Negative-feedback inhibition of fetal ACTH secretion by maternal cortisol <i>C. E. Wood</i>	R743

Vasopressin release in response to nausea-producing agents and cholecystokinin in monkeys <i>J. G. Verbalis, D. W. Richardson, and E. M. Stricker</i>	R749
Pressor action of intravenous angiotensin II reduces drinking response in rats <i>M. M. Robinson and M. D. Ewered</i>	R754
Chemical microstimulation of the septal area lowers arterial pressure in the rat <i>A. J. Gelsema and F. R. Calaresu</i>	R760
Correlation between osmoregulation and cell volume regulation <i>M. A. Lang</i>	R768
Yolk platelet degradation in preemergence <i>Artemia</i> embryos: response to protons in vivo and in vitro <i>P. J. Utterback and S. C. Hand</i>	R774
Thoracic duct lymph flow during head-out water immersion in conscious dogs <i>K. Miki, M. M. Pazik, E. Krasney, S. K. Hong, and J. A. Krasney</i>	R782
Properties enhancing aerobic capacity of calling muscles in gray tree frogs <i>Hyla versicolor</i> <i>R. L. Marsh and T. L. Taigen</i>	R786

SPECIAL COMMUNICATIONS

Total body electrical conductivity measurements: effects of body composition and geometry <i>M. L. Fiorotto, W. J. Cochran, R. C. Funk, H.-P. Sheng, and W. J. Klish</i>	R794
---	------

RAPID COMMUNICATIONS

Effect of stimulation of afferent renal nerves on plasma levels of vasopressin <i>M. M. Caverson and J. Ciriello</i>	R801
---	------

ANNOUNCEMENTS

R808

No. 5, MAY 1987

INVITED OPINION

Ion transport in circulatory and/or septic shock <i>M. M. Sayeed</i>	R809
---	------

Thermogenin amount and activity in hamster brown fat mitochondria: effect of cold acclimation

<i>U. Sundin, G. Moore, J. Nedergaard, and B. Cannon</i>	R822
--	------

Renal function and sodium balance in conscious Dahl S and R rats *R. J. Roman and J. L. Osborn*

R833

Homeostatic control of manganese excretion in the neonatal rat *N. Ballatori, E. Miles, and T. W. Clarkson*

R842

Brain ECF pH and central chemical control of ventilation during anoxia in turtles *D. G. Davies and J. A. Sexton*

R848

Angiotensin II infusion increases thoracic duct lymph flow in chronically catheterized sheep *G. J. Valenzuela, C. W. Hewitt, and A. D. Graham*

R853

Proton-stimulated Cl-HCO₃ antiport by basolateral membrane vesicles of lobster hepatopancreas *G. A. Ahearn, M. L. Grover, R. T. Tsuji, and L. P. Clay*

R859

Aging changes in renal handling of p-aminohippurate *C. L. Wabner and T. S. Chen*

R871

Elevated levels of atrial natriuretic peptide during aldosterone escape *J. P. Granger, J. C. Burnett, Jr., J. C. Romero, T. J. Opgenorth, J. Salazar, and M. Joyce*

R878

Effect of immobilization on collagen synthesis in rat skeletal muscles *J. Savolainen, K. Väänänen, V. Vihko, J. Puranen, and T. E. S. Takala*

R883

Neurohypophyseal secretion in hypovolemic rats: inverse relation to sodium appetite <i>E. M. Stricker, J. A. Hosutt, and J. G. Verbalis</i>	R889
Polyunsaturated lipid diet lengthens torpor and reduces body temperature in a hibernator <i>F. Geiser and G. J. Kenagy</i>	R897
Acute effects of dietary protein on food intake, tissue amino acids, and brain serotonin <i>J. C. Peters and A. E. Harper</i>	R902
Atrial natriuretic factor decreases whole-body capillary absorption in rats <i>N. C. Trippodo and R. W. Barbee</i>	R915
Role of atrial natriuretic factor in the natriuresis of acute volume expansion <i>A. A. Khraibi, J. P. Granger, J. C. Burnett, Jr., K. R. Walker, and F. G. Knox</i>	R921
Cardiac control of salt appetite <i>E. Toth, J. Stelfox, and S. Kaufman</i>	R925
Matching of vertebrate cardiac energy demand to energy metabolism <i>W. R. Driedzic, B. D. Sidell, D. Stowe, and R. Branscombe</i>	R930
Ingestive behavior of rats with ibotenic acid lesions of the dorsomedial hypothalamus <i>L. L. Bellinger</i>	R938
Bicuculline blocks an inhibitory baroreflex input to supraoptic vasopressin neurons <i>J. H. Jhamandas and L. P. Renaud</i>	R947
Beta-endorphin, ACTH, and cortisol response to hemorrhage in conscious pigs <i>J. D. O'Benar, J. P. Hannon, J. L. Peterson, and C. A. Bossone</i>	R953
Quaternary ammonium sulfanilamide: a membrane-impermeant carbonic anhydrase inhibitor <i>R. P. Henry</i>	R959
Membrane-associated carbonic anhydrase in gills of the blue crab, <i>Callinectes sapidus</i> <i>R. P. Henry</i>	R966
Extracellular fluid and plasma volumes during water immersion in nephrectomized dogs <i>K. Miki, G. Hajduczok, S. K. Hong, and J. A. Krasney</i>	R972
Renal nerves and renal responses to head-up tilt in dogs <i>T. V. Peterson, N. L. Hurst, and J. A. Richardson</i>	R979
Thermogenic activity and capacity of brown fat in fasted and refed golden hamsters <i>I. Levin and P. Trayhurn</i>	R987
Intravenous insulin infusions in rats decrease gustatory-evoked responses to sugars <i>B. K. Giza and T. R. Scott</i>	R994

SPECIAL COMMUNICATIONS

Determination of plasma volume in swine by the enzyme-dilution method <i>M. A. Holmes and R. B. Weiskopf</i>	R1003
A rapid bioassay for quantification of atrial natriuretic polypeptides <i>K. Matsui, T. Kimura, K. Ota, M. Shoji, M. Inoue, K. Itake, and K. Yoshinaga</i>	R1009

RAPID COMMUNICATIONS

Infusion of CCK-8 into hepatic-portal vein fails to reduce food intake in rats <i>D. Greenberg, G. P. Smith, and J. Gibbs</i>	R1015
Renal nerves mediate blunted natriuresis to atrial natriuretic peptide in cirrhotic rats <i>J. P. Koepke, S. Jones, and G. F. DiBona</i>	R1019

No. 6, JUNE 1987

Rats with regenerating adrenals are more hypertensive in the morning than afternoon <i>R. Foulkes, S. M. Gardiner, and T. Bennett</i>	R1025
Ventral medullary surface inputs to cervical sympathetic respiratory oscillations <i>E. van Lunteren, J. Mitra, N. R. Prabhakar, M. A. Haxhiu, and N. S. Cherniack</i>	R1032
Activation of neurosecretory cells by osmotic stimulation of anteroventral third ventricle <i>K. Honda, H. Negoro, T. Higuchi, and Y. Tadokoro</i>	R1039

Cold-induced changes in Ca^{2+} transport in duckling skeletal muscle mitochondria <i>H. Barré and J. Nedergaard</i>	R1046
Natriuretic response to homologous heart extract in aglomerular toadfish <i>J. Lee and R. L. Malvin</i>	R1055
Changes in physiological properties of rabbit oviduct by ovarian steroids <i>M. Nozaki and Y. Ito</i>	R1059
Characteristics of lung mechanoreceptors in spotted gar, <i>Lepisosteus oculatus</i> <i>N. J. Smatresk and S. Q. Azizi</i>	R1066
Myocardial adaptation to endurance exercise training in diabetic rats <i>D. J. Paulson, S. J. Kopp, D. G. Peace, and J. P. Tow</i>	R1073
Role of local neurons in cerebrocortical vasodilation elicited from cerebellum <i>C. Iadecola, S. P. Arneric, H. D. Baker, L. W. Tucker, and D. J. Reis</i>	R1082
α -Adrenergic receptor subtypes in the cerebral circulation of newborn piglets <i>L. C. Wagerle, and M. Delivoria-Papadopoulos</i>	R1092
Nonisotonicity of simian eccrine primary sweat induced in vitro <i>K. Sato and F. Sato</i>	R1099
Satiety effects of intragastric meals containing triglycerides with different chain lengths <i>C. A. Maggio and H. S. Koopmans</i>	R1106
Lymphatic and vascular responses to fluid infusion in castrated and noncastrated sheep <i>G. J. Valenzuela, R. A. Brace, and L. D. Longo</i>	R1114
Partial purification and characterization of cysteine proteinases in eccrine sweat <i>H. Yokozeki, T. Hibino, and K. Sato</i>	R1119
Relationship between preferred ambient temperature and autonomic thermoregulatory function in rat <i>C. J. Gordon</i>	R1130
Acute suppression of plasma vasopressin and thirst after drinking in hypernatremic humans <i>C. J. Thompson, J. M. Burd, and P. H. Baylis</i>	R1138
Adrenal gland denervation and diving in ducks <i>H. J. Mangalam, D. R. Jones, and A. M. A. Lacombe</i>	R1143
Pulsatile release of antipyretic neuropeptide α -MSH from septum of rabbit during fever <i>R. C. Bell and J. M. Lipton</i>	R1152
Expiratory effects of cerebellar stimulation in developing opossum <i>J. P. Farber</i>	R1158
Role for the median preoptic nucleus in centrally evoked pressor responses <i>T. P. O'Neill and M. J. Brody</i>	R1165

MODELING METHODOLOGY FORUM

Model of plasma calcium regulation: system oscillations induced by growth <i>S. Hurwitz, S. Fishman, and H. Talpaz</i>	R1173
Solvent flow in osmosis and hydraulics: network thermodynamics and representation by bond graphs <i>H. Atlan and J. Thoma</i>	R1182

<i>Subject Index to Volume 21</i>	R1195
<i>Author Index to Volume 21</i>	R1205

CORRIGENDA

Volume 252, May 1987
Volume 21, May 1987

Page R883: Jukka Savolainen, Kalervo Väänänen, Veikko Vihko, Jaakko Puranen and Timo E. S. Takala. "Effect of immobilization on collagen synthesis in rat skeletal muscles." Page R883: second column, ninth line should read "in types I and III collagen (23)". Page R886: Table 2 title should read "Effect of 3 wk cast immobilization on PH and GGT activities and HYP content on muscle." Page R888: Reference 17 should read "edited by J. B. Weiss and M. I. V. Jayson."

American Journal of Physiology: Renal, Fluid and Electrolyte Physiology

No. 1. JANUARY 1987

EDITORIAL REVIEW

Activation of ion transport systems during cell volume regulation

J. L. Eveloff and D. G. Warnock

F1

Mechanism of bicarbonate exit across basolateral membrane of rabbit proximal straight tubule

S. Sasaki, T. Shiigai, N. Yoshiyama, and J. Takeuchi

F11

cAMP-associated inhibition of $\text{Na}^+ \text{-H}^+$ exchanger in rabbit kidney brush-border membranes

E. J. Weinman, S. Shenolikar, and A. M. Kahn

F19

Chronic effects of vasopressin on fluid volume distribution in conscious dogs

D. C. Merrill and A. W. Cowley, Jr.

F26

Identification and regulation of renin in human cultured mesangial cells

D. Chansel, J.-C. Dussaule, N. Ardaillou, and R. Ardaillou

F32

Dopamine causes inhibition of $\text{Na}^+ \text{-K}^+$ -ATPase activity in rat proximal convoluted tubule segments

A. Aperia, A. Bertorelli, and I. Seri

F39

Adenosine inhibits β -adrenoceptor but not DBcAMP-induced renin release

G. Deray, R. A. Branch, W. A. Herzer, A. Ohnishi, and E. K. Jackson

F46

PGE_2 , $\text{PGF}_{2\alpha}$, 6-keto-PGF $_{1\alpha}$, and TxB_2 synthesis along the rabbit nephron

N. Farman, P. Pradelles, and J. P. Bonvalet

F53

Effect of insulin on renal potassium metabolism

L. Rossetti, G. Klein-Robbenhaar, G. Giebisch, D. Smith, and R. DeFronzo

F60

Control of renal hemodynamics in hyperglycemia: possible role of tubuloglomerular feedback

L. L. Woods, H. L. Mizelle, and J. E. Hall

F65

Calcium-activated phospholipase C associated with canine renal basolateral membranes

S. A. Rogers and M. R. Hammerman

F74

Modification of tubuloglomerular feedback signal by dietary protein

F. D. Seney, Jr., A. E. G. Persson, and F. S. Wright

F83

Effects of hypoproteinemia on renal hemodynamics, arterial pressure, and fluid volume

R. D. Manning, Jr.

F91

Atrial natriuretic peptide stimulates salt secretion by shark rectal gland by releasing VIP

P. Silva, J. S. Stoff, R. J. Solomon, S. Lear, D. Kniaz, R. Greger, and F. H. Epstein

F99

Flow of water between aqueous and vitreous compartments in the rabbit eye

D. M. Maurice

F104

Glomerular angiotensin II receptor modulation in glycerol-induced acute renal failure

B. M. Wilkes and P. F. Mento

F109

Calcium modulates vasopressin effect in rabbit cortical collecting tubule

M. A. Dillingham, B. S. Dixon, and R. J. Anderson

F115

Mechanism of potassium depletion during chronic metabolic acidosis in the rat

J. D. Scandling and D. B. Ornt

F122

Analysis of renal function in the two-kidney Goldblatt model

F. B. Gabbai, L. C. Gushwa, O. W. Peterson, C. B. Wilson, and R. C. Blantz

F131

Glucose metabolism in muscle of sedentary and exercised rats with azotemia

T. A. Davis, S. Klahr, and I. E. Karl

F138

Effect of reduction in renal artery pressure on atrial natriuretic peptide-induced natriuresis

C. L. Davis and J. P. Briggs

F146

Electrochemical analysis of renal Na^+ -glucose cotransport in salamander proximal tubules

N. Morganov and E. L. Boulaep

F154

Specific α_1 -, α_2 -, and β -responses to norepinephrine in pyruvate-perfused rat kidneys

A. D. Baines and P. Ho

F170

ADH increases apical Na^+ , K^+ , 2Cl^- entry in mouse medullary thick ascending limbs of Henle

D. A. Molony, W. B. Reeves, S. C. Hebert, and T. E. Andreoli

F177

Factors affecting proximal tubular reabsorption during development

F. J. Kaskel, A. M. Kumar, E. A. Lockhart, A. Evan, and A. Spitzer

F188

ANNOUNCEMENTS

F198

No. 2. FEBRUARY 1987

EDITORIAL REVIEW

Renal α_2 -adrenoceptors and the adenylate cyclase-cAMP system: biochemical and physiological interactions

W. A. Pettinger, S. Umemura, D. D. Smyth, and W. B. Jeffries

F199

Influence of transmembrane potential differences of renal tubular epithelial cell on ANG II binding

G. P. Brown and J. G. Douglas

F209

Norepinephrine increases Na^+ - K^+ -ATPase and solute transport in rabbit proximal tubules

R. E. Beach, S. J. Schwab, P. C. Brazy, and V. W. Dennis

F215

Regulation of urea synthesis by acid-base balance in vivo: role of NH_3 concentration

S. Cheema-Dhadli, R. L. Jungas, and M. L. Halperin

F221

Presence of multiple sodium-dependent phosphate transport processes in proximal brush-border membranes

J. J. Walker, T. S. Yan, and G. A. Quamme

F226

NH_3 and NH_4^+ transport by rabbit renal proximal straight tubules

J. L. Garvin, M. B. Burg, and M. A. Knepper

F232

Increased release of norepinephrine and dopamine from canine kidney during bilateral carotid occlusion

T. Bradley, P. Hjemdahl, and G. F. DiBona

F240

Direct toxic effect of the radiocontrast agent diatrizoate on renal proximal tubule cells

H. D. Humes, D. A. Hunt, and M. D. White

F246

Adaptation to metabolic acidosis by turtle urinary bladder

R. P. Wheeler and J. A. L. Arruda

F256

Effects of vitamin D-induced chronic hypercalcemia on rat renal cortical plasma membranes and mitochondria

M. Levi, B. A. Molitoris, T. J. Burke, R. W. Schrier, and F. R. Simon

F267

Prevention of reflex natriuresis after acute unilateral nephrectomy by neonatal administration of MSG

S.-Y. Lin, E. Wiedemann, C. F. Deschepper, R. H. Alper, and M. H. Humphreys

F276

Two renal α_2 -adrenergic receptor sites revealed by *p*-aminoclonidine binding

B. Sripanidkulchai, R. Dawson, S. Oparil, and J. M. Wyss

F283

Role of renal nerves in compensatory adaptation to chronic reductions in sodium intake

H. L. Mizelle, J. E. Hall, L. L. Woods, J.-P. Montani,

D. J. Dzielak, and Y.-J. Pan

F291

Renal effects of selective adenosine receptor agonists in anesthetized rats

P. C. Churchill and A. Bidani

F299

Renal metabolism of amino acids in vivo: studies on serine and glycine fluxes

M. Lowry, D. E. Hall, M. S. Hall, and J. T. Brosnan

F304

Effect of bicarbonate and phosphate on renal phosphate leak in experimental Fanconi syndrome

Y. Shvil, H. Wald, and M. M. Popovitz

F310

Lack of effect of atriopeptin II on rabbit glomerular arterioles in vitro <i>R. M. Edwards and E. F. Weidley</i>	F317
Total CO ₂ flux in isolated collecting tubules during carbonic anhydrase inhibition <i>M. E. Laski</i>	F322
Interactions between ADH and prostaglandins in isolated erythrocyte-perfused rat kidney <i>W. Lieberthal, M. L. Vasilevsky, C. R. Valeri, and N. G. Levinsky</i>	F331
Evidence that parallel Na ⁺ -H ⁺ and Cl ⁻ -HCO ₃ ⁻ (OH ⁻) antiporters transport NaCl in the proximal tubule <i>M. Baum</i>	F338
Sulfate-bicarbonate exchange in brush-border membranes from rat renal cortex <i>J. B. Pritchard</i>	F346

RAPID COMMUNICATIONS

Comparison of effects of forskolin, cAMP, and vasopressin on $P_f/P_d(w)$ of toad urinary bladder luminal membrane <i>S. D. Levine and M. Jacoby</i>	F357
---	------

No. 3. MARCH 1987

CENTENNIAL MESSAGE

Wither or whither? <i>A. P. Fishman</i>	F361
The American Physiological Society in its centenary year <i>H. E. Morgan</i>	F363

EDITORIAL REVIEW

Metabolic derivatives of aldosterone <i>D. J. Morris and A. S. Brem</i>	F365
--	------

Thick ascending limb response to dDAVP and atrial natriuretic factor in vivo <i>L. N. Peterson, C. de Rouffignac, H. Sonnenberg, and D. Z. Levine</i>	F374
Lithium clearance in mineralocorticoid escape in humans <i>W. H. Boer, H. A. Koomans, and E. J. Dorhout Mees</i>	F382
K transport in upper portion of descending limbs of long-loop nephron from hamster <i>K. Tabei and M. Imai</i>	F387
Profiles of water and solute transport along long-loop descending limb: analysis by mathematical model <i>J. Taniguchi, K. Tabei, and M. Imai</i>	F393
Renal hemodynamic, fluid volume, and arterial pressure changes during hyperproteinemia <i>R. D. Manning, Jr.</i>	F403
Immunological segmentation of the rabbit distal, connecting, and collecting tubules <i>P. Poujeol, P. Ronco, M. Tauc, M. Geniteau, F. Chatelet, D. Sahali, A. Vandewalle, and P. Verroust</i>	F412
Intracellular messenger for action of angiotensin II on fluid transport in rabbit proximal tubule <i>J. H. Dominguez, K. W. Snowdowne, C. C. Freudenrich, T. Brown, and A. B. Borle</i>	F423
Effect of stimulated neutrophils on cyclic nucleotide content in isolated rat glomeruli <i>A. Basci, J. D. Wallin, and S. V. Shah</i>	F429
The kidney in potassium depletion. I. Na ⁺ -K ⁺ -ATPase activity and [³ H]ouabain binding in MCT <i>M. Hayashi and A. I. Katz</i>	F437
The kidney in potassium depletion. II. K ⁺ handling by the isolated perfused rat kidney <i>M. Hayashi and A. I. Katz</i>	F447

Corticosteroids decrease glomerular angiotensin receptors <i>J. G. Douglas</i>	F453
Ca-activated K channels in apical membrane of mammalian CCT, and their role in K secretion <i>G. Frindt and L. G. Palmer</i>	F458
Total CO ₂ absorption in the distal tubule of the rat <i>R. T. Kunau, Jr., and K. A. Walker</i>	F468
Plasma glutamine and renal ammoniogenesis in dogs with chronic metabolic acidosis <i>M. L. Halperin and C. Bun-Chen</i>	F474
Resetting of renal blood flow autoregulation in spontaneously hypertensive rats <i>B. M. Iversen, I. Sekse, and J. Ofstad</i>	F480
Influence of salt on response to nitrendipine by Dahl rat kidney <i>T. H. Steele and L. Challoner-Hue</i>	F487
Transepithelial ammonia concentration gradients in inner medulla of the rat <i>D. W. Good, C. R. Caflisch, and T. D. DuBose, Jr.</i>	F491
HCO ₃ ⁻ accumulation in proximal tubule: roles of carbonic anhydrase, luminal buffers, and pH <i>K. Bomsztyk, E. R. Swenson, and M. B. Calab</i>	F501
Effect of potassium depletion and protein intake in vivo on renal tubular bicarbonate transport in vitro <i>T. D. McKinney and K. K. Davidson</i>	F509
<i>N</i> -ethoxycarbonyl-2-ethoxy-1,2-dihydroquinoline, amiloride analogues, and renal Na ⁺ /H ⁺ antiporter <i>V. K. Rocco, E. J. Cragoe, Jr., and D. G. Warnock</i>	F517
Cimetidine transport in rabbit renal cortical brush-border membrane vesicles <i>T. D. McKinney and M. E. Kunnemann</i>	F525
Contribution of AV3V region in anephric NaCl-induced hypertension in the rat <i>J. R. Haywood, N. A. Ball, M. D. Lifschitz, and T. J. Brennan</i>	F536
Neuropeptide Y inhibits renin release by a pertussis toxin-sensitive mechanism <i>E. Hackenthal, K. Aktories, K. H. Jakobs, and R. E. Lang</i>	F543
cGMP mediates effects of atrial peptides on medullary collecting duct cells <i>M. L. Zeidel, P. Silva, B. M. Brenner, and J. L. Seifter</i>	F551

MODELING METHODOLOGY FORUM

Oscillations in the proximal intratubular pressure: a mathematical model <i>N.-H. Holstein-Rathlou and P. P. Leyssac</i>	F560
---	------

No. 4. APRIL 1987

EDITORIAL REVIEW

The early proximal tubule: a high-capacity delivery-responsive reabsorptive site <i>D. A. Maddox and J. F. Gennari</i>	F573
---	------

Effects of parathyroid hormone on net proton flux from neonatal mouse calvariae <i>D. A. Bushinsky</i>	F585
Conductive Na ⁺ transport in an epithelial cell line (LLC-PK ₁) with characteristics of proximal tubular cells <i>H. F. Cantiello, J. A. Scott, and C. A. Rabito</i>	F590
Calcitonin inhibits Na ⁺ gradient-dependent phosphate uptake across renal brush-border membranes <i>A. N. K. Yusufi, T. J. Berndt, N. Murayama, F. G. Knox, and T. P. Dousa</i>	F598
Ontogeny of renal hemodynamic response to renal nerve stimulation in sheep <i>J. E. Robillard, K. T. Nakamura, M. K. Wilkin, O. J. McWeeny, and G. F. DiBona</i>	F605

Modulation of renal adrenergic effector mechanisms by calcium entry blockers <i>J. C. Pelayo</i>	F613
Cholera toxin enhances adenylate cyclase-dependent transport in toad urinary bladder <i>B. S. Hoch and S. D. Levine</i>	F621
Endocytosis by cultured mesangial cells and associated changes in prostaglandin E ₂ synthesis <i>P. C. Singhal, G. Ding, S. DeCandido, N. Franki, R. M. Hays, and D. Schlondorff</i>	F627
Intrarenal generation of angiotensin II evaluated by an electrophysiological technique <i>C. P. Bührle, L. Rosivall, and R. Taugner</i>	F635
Transepithelial and intracellular potentials in isolated Malpighian tubules of tenebrionid beetle <i>S. W. Nicolson and L. C. Isaacson</i>	F645
Renal response to atrial peptides is reduced in experimental nephrosis <i>N. Perico, F. Delaini, C. Lupini, and G. Remuzzi</i>	F654
Volume regulatory loss of Na, Cl, and K from rat brain during acute hyponatremia <i>J. E. Melton, C. S. Patlak, K. D. Pettigrew, and H. F. Cserr</i>	F661
Role of dipeptidyl peptidase IV in uptake of peptide nitrogen from β -casomorphin in rabbit renal BBMV <i>Y. Miyamoto, V. Ganapathy, A. Barlas, K. Neubert, A. Barth, and F. H. Leibach</i>	F670
Effects of adenosine infusion into renal interstitium on renal hemodynamics <i>D. Pawlowska, J. P. Granger, and F. G. Knox</i>	F678
Tubule urate and PAH transport: sensitivity and specificity of serum protein inhibition <i>J. J. Grantham, J. Kennedy, and B. Cowley</i>	F683
Electroneutral H ⁺ secretion in distal tubule of <i>Amphiuma</i> <i>B. Stanton, A. Omerovic, B. Koeppen, and G. Giebisch</i>	F691
Ionic permeabilities of rat renal cortical brush-border membrane vesicles <i>M. S. Lipkowitz and R. G. Abramson</i>	F700
Inner medullary collecting duct function during rebound alkalemia <i>H. H. Bengele, E. R. McNamara, J. H. Schwartz, and E. A. Alexander</i>	F712
In vivo demonstration of glomerular PGE ₂ responses to physiological manipulations and experimental agents <i>D. Schlondorff, H. S. Aynedjian, J. A. Satriano, and N. Bank</i>	F717
Inner medullary hemodynamics in dogs with aortocaval fistula <i>S.-Y. Chou, P. F. Faubert, E. M. Epstein, D. G. Blackstock, and J. G. Porush</i>	F724
Cyclosporine nephrotoxicity: sodium excretion, autoregulation, and angiotensin II <i>F. J. Kaskel, P. Devarajan, L. A. Arbeit, J. S. Partin, and L. C. Moore</i>	F733
Biphasic effect of oxygen radicals on prostaglandin production by rat mesangial cells <i>S. Adler, R. A. K. Stahl, P. J. Baker, Y. P. Chen, P. M. Pritzl, and W. G. Couser</i>	F743
Renal folate absorption and the kidney folate binding protein. I. Urinary clearance studies <i>J. Selhub, D. Emmanouel, T. Stavropoulos, and R. Arnold</i>	F750
Renal folate absorption and the kidney folate binding protein. II. Microinfusion studies <i>J. Selhub, S. Nakamura, and F. A. Carone</i>	F757

SPECIAL COMMUNICATIONS

Surgical thyroparathyroidectomy of the rabbit <i>S. Q. Tan, D. Thomas, W. Jao, J. E. Bourdeau, and K. Lau</i>	F761
--	------

MODELING METHODOLOGY FORUM

Renal autoregulation: models combining tubuloglomerular feedback and myogenic response <i>K. Aukland and A. H. Øie</i>	F768
---	------

EDITORIAL REVIEW

Na⁺-K⁺ pump in chronic renal failure
D. Kaji and T. Kahn

F785

Prostaglandin independence of kinin-stimulated renin release <i>W. H. Beierwaltes</i>	F794
Renal tubular secretion of the alkanesulfonate 2,3-dimercapto-1-propanesulfonate <i>J. R. Stewart and G. L. Diamond</i>	F800
Adrenergic and angiotensin II influences on renal vascular tone in chronic sodium depletion <i>B. J. Tucker, C. A. Mundy, and R. C. Blantz</i>	F811
Superficial nephron responses to peritubular capillary infusions of angiotensins I and II <i>K. D. Mitchell and L. G. Navar</i>	F818
Atrial natriuretic factor inhibits maximal tubuloglomerular feedback response <i>C.-L. Huang and M. G. Cogan</i>	F825
Regulatory role of prostaglandins in glomerular microcirculation of remnant nephrons <i>K. A. Nath, D. H. Chmielewski, and T. H. Hostetter</i>	F829
Na ⁺ -K ⁺ -ATPase activity in medullary thick ascending limb during short-term anoxia <i>M. E. Chamberlin and L. J. Mandel</i>	F838
Cl ⁻ /HCO ₃ ⁻ antiporter in red cell ghosts: a kinetic assessment with fluorescent probes <i>R. D. London, M. S. Lipkowitz, and R. G. Abramson</i>	F844
Supersensitivity to NE alters renal function of chronically denervated rat kidneys <i>J. Krayacich, R. L. Kline, and P. F. Mercer</i>	F856
Blunted natriuresis to atrial natriuretic peptide in chronic sodium-retaining disorders <i>J. P. Koepke and G. F. DiBona</i>	F865
Renin secretory effects of N ⁶ -cyclohexyladenosine: effects of dietary sodium <i>P. C. Churchill, N. F. Rossi, and M. C. Churchill</i>	F872
Renal clearance of glutathione measured in rats pretreated with inhibitors of glutathione metabolism <i>R. D. Scott and N. P. Curthoys</i>	F877
K-Cl transport systems in rabbit renal basolateral membrane vesicles <i>J. Eveloff and D. G. Warnock</i>	F883
Subcellular distribution of renal tripeptide-releasing exopeptidases active on collagen-like sequences <i>K.-J. Andersen and J. K. McDonald</i>	F890
Electrophysiological studies of primary cultures of rabbit distal tubule cells <i>E. Bello-Reuss and M. R. Weber</i>	F899
Enhanced glomerular filtration and Na ⁺ -K ⁺ -ATPase with furosemide administration <i>P. Scherzer, H. Wald, and M. M. Popovitz</i>	F910
Examination of hypercalciuria in anterior pituitary-implanted rats <i>L. S. Costanzo, B. Smith, and R. A. Adler</i>	F916
Cell volume regulation in rabbit proximal straight tubule perfused in vitro <i>K. L. Kirk, J. A. Schafer, and D. R. DiBona</i>	F922
Regulatory volume decrease in perfused proximal nephron: evidence for a dumping of cell K ⁺ <i>K. L. Kirk, D. R. DiBona, and J. A. Schafer</i>	F933

RAPID COMMUNICATIONS

Interleukin-1 decreases renal sodium reabsorption: possible mechanism
of endotoxin-induced natriuresis
J. Caverzasio, R. Rizzoli, J.-M. Dayer, and J.-P. Bonjour

F943

EDITORIAL REVIEW

Metabolic aspects of the regulation of systemic pH
D. E. Atkinson and E. Bourke

F947

Cells of origin of the sympathetic renal innervation in rat <i>W. Sripairojthikoon and J. M. Wyss</i>	F957
Reduced urinary kallikrein activity in rats developing spontaneous hypertension <i>J.-L. Ader, T. Tran-Van, and F. Pradadaude</i>	F964
In situ studies of distal convoluted tubule in rat. II. K secretion <i>J. Schnermann, B. Steipe, and J. P. Briggs</i>	F970
Effect of atrial natriuretic factor on renal function in rats with papillary necrosis <i>D. A. Hildebrandt and R. O. Banks</i>	F977
Role of the liver in renal hemodynamic response to amino acid infusion <i>L. Woods, H. L. Mizelle, and J. E. Hall</i>	F981
Effect of vasopressin analogue (dDAVP) on potassium transport in medullary collecting duct <i>H. Sonnenberg, U. Honrath, and D. R. Wilson</i>	F986
Atriopeptin III alters renal medullary hemodynamics and the pressure-diuresis response in rats <i>K. Takezawa, A. W. Cowley, Jr., M. Skelton, and R. J. Roman</i>	F992
Renal autoregulation and vulnerability to hypertensive injury in remnant kidney <i>A. K. Bidani, M. M. Schwartz, and E. J. Lewis</i>	F1003
Centrally administered atrial natriuretic factor increases renal water excretion <i>J. Lee, J. Q. Feng, R. L. Malvin, B.-S. Huang, and R. J. Grekin</i>	F1011
Localization of α_2 -adrenoceptor-mediated increase in renal Na^+ , K^+ , and water excretion <i>B. Stanton, E. Puglisi, and M. Gellai</i>	F1016
Selectivity of basolateral anion exchange in the acidification pathway of turtle bladder <i>R. F. Husted and J. L. Fischer</i>	F1022
Cytosolic calcium and the action of vasopressin in toad urinary bladder <i>A. Taylor, E. Eich, M. Pearl, A. S. Brem, and E. Q. Peeper</i>	F1028
Role of basolateral cell membranes in organic solute reabsorption in rabbit kidneys <i>E. C. Foulkes</i>	F1042
Aldosterone is a physiologically significant kaliuretic hormone <i>W. R. Adam, A. G. Ellis, and B. A. Adams</i>	F1048
NaCl and Ca delivery at the bend of rat deep nephrons decreases during antidiuresis <i>J.-M. Elalouf, D. Chabane Sari, N. Roinel, and C. de Rouffignac</i>	F1055
Essential tyrosine residues in transport of organic cations in renal BBMV <i>P.-H. Hsyu and K. M. Giacomini</i>	F1065
Phorbol esters inhibit ammoniagenesis and gluconeogenesis in proximal tubular segments <i>M. C. Chobanian and M. R. Hammerman</i>	F1073
Mechanisms of lithium-vasopressin interaction in rabbit cortical collecting tubule <i>E. Cogan, M. Svoboda, and M. Abramow</i>	F1080
High protein intake stimulates glomerular prostaglandin formation in remnant kidneys <i>R. A. K. Stahl, S. Kudelka, and U. Helmchen</i>	F1088
Effectiveness of a salt transport cascade in the renal medulla: computer simulations <i>P. Lory</i>	F1095
Quinidine effect on hydrosmotic response of collecting tubules to vasopressin and cAMP <i>M. Lorenzen, G. Frindt, A. Taylor, and E. E. Windhager</i>	F1103
Effect of atrial natriuretic peptide on vasa recta blood flow in the rat <i>B. A. Kiberd, T. S. Larson, C. R. Robertson, and R. L. Jamison</i>	F1112
De novo intrarenal formation of angiotensin II during control and enhanced renin secretion <i>L. Rosivall, A. J. Narkates, S. Oparil, and L. G. Navar</i>	F1118

Sex differences in function and distribution of α_1 - and α_2 -adrenoceptors
in rabbit urethra

T. Morita, J. Latifpour, B. O'Hollaren, M. A. Wheeler, and R. M. Weiss

F1124

Isolated perfused *Ambystoma* proximal tubule: hydrodynamics modulates ultrastructure
S. Tripathi, E. L. Boulpaep, and A. B. Maunsbach

F1129

Luminal pH disequilibrium ammonia transport in outer medullary collecting duct
R. A. Star, M. B. Burg, and M. A. Knepper

F1148

SPECIAL COMMUNICATIONS

In vivo measurement of tubular fluid ferrocyanide with carbon-fiber microelectrodes
L. C. Moore, C. Clausen, E. F. Bowden, and A. Birzgalis

F1158

Noninvasive Doppler assessment of human postprandial renal blood flow
and cardiac output

P. S. Avasthi, E. R. Greene, and W. F. Voyles

F1167

RAPID COMMUNICATIONS

ADP activates protooncogene expression in renal epithelial cells
S. Kartha, V. P. Sukhatme, and F. G. Toback

F1175

Subject Index to Volume 21

F1181

Author Index to Volume 21

F1191

CORRIGENDA

Volume 251, September 1986
Volume 20, September 1986

Pages F485-F489: Gary A. Rosenberg, Walter T. Kyner, Joseph D. Fenstermacher, and Clifford S. Patlak. "Effect of vasopressin on ependymal and capillary permeability to tritiated water in cat." Page F486: RESULTS, in the fifth sentence, the ratio of tissue to plasma TOH is given as 0.011 ± 0.001 . This should read 1.1 ± 0.1 .

Volume 251, December 1986
Volume 20, December 1986

Pages F1009-F1017: Kiichiro Tago, David H. Warden, Victor L. Schuster, and John B. Stokes. "Effects of inhibitors of Cl conductance on Cl self-exchange in rabbit cortical collecting tubule." Page F1010: The equation in the left column should read

$$K_{\text{Cl}} = \frac{2\dot{V}_L}{A} \cdot \frac{C_0^* - C_L^*}{C_0^* + C_L^*}$$

